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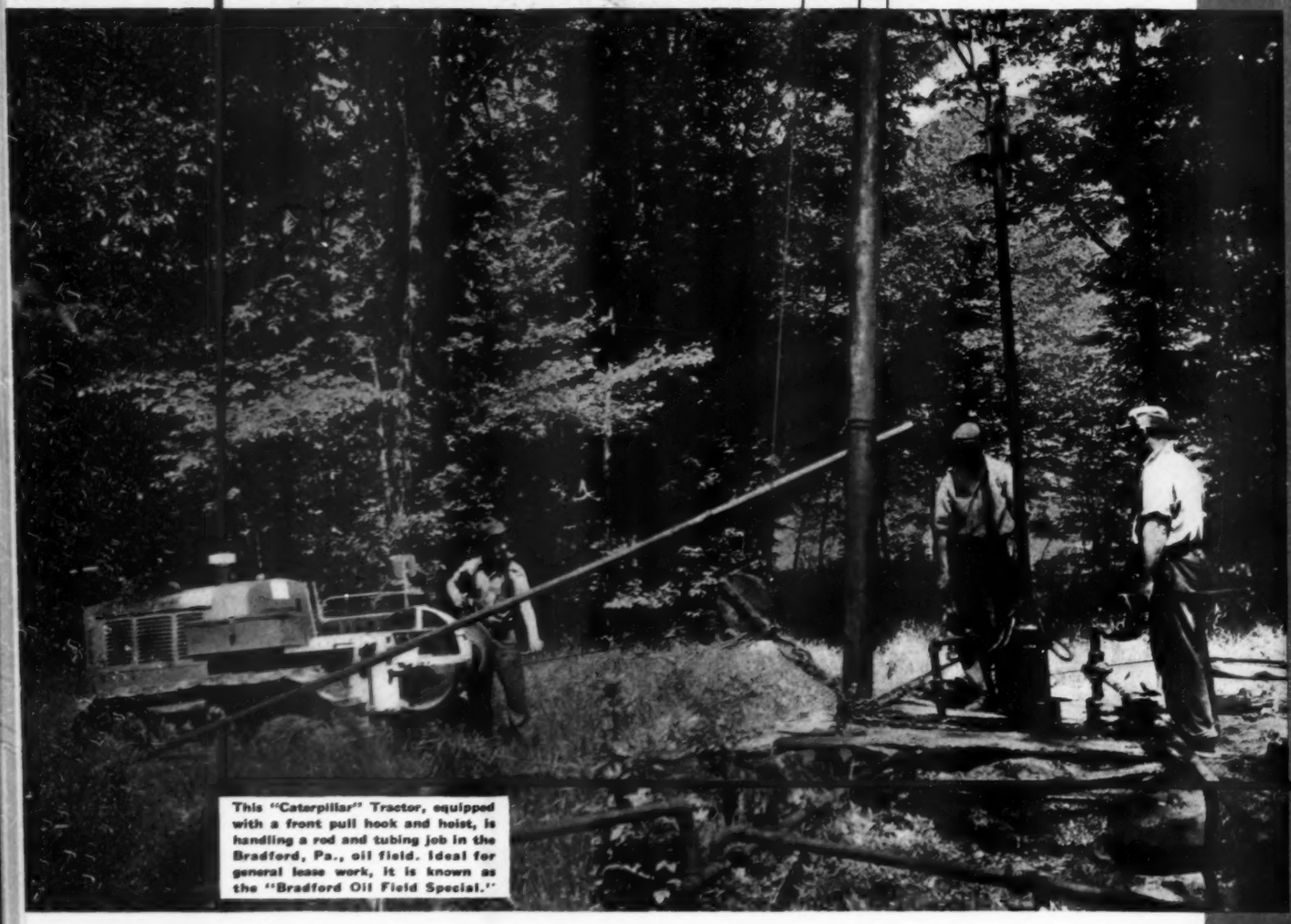

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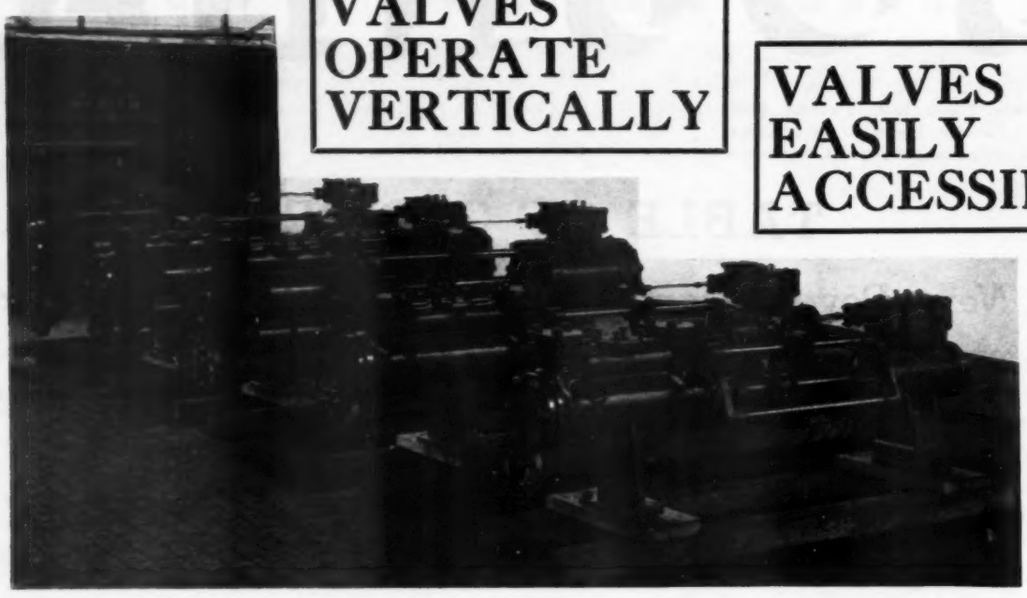

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Oil Refiners Mean to Hold Ground Won

DECLARATION by many Mid-Continent refiners without retail outlets of their own that they plan to cut back runs to stills severely or even to shut down temporarily, rather than to make unneeded gasoline and sell it for whatever it might bring, was a cheering development of the last week. It encourages hope that gasoline will enter its season of heaviest consumption in a strong strategic position, with excellent prospects for both large and small operators, instead of being crippled by price-cutting and generally disordered markets. The present period of unexpectedly low consumption, a result of abnormal weather conditions, is evidently not to be allowed to rob the industry of gains made in the last year in the direction of stabilization and sane business procedure.

Pointing to further elimination of demoralizing trade practices was appointment of a committee, headed by C. E. Arnott, which will endeavor to have the marketing code designed originally for the Middle West only adopted in all areas east of the Rocky Mountains. Whether this effort is successful or not, the code will be submitted to the Federal Trade Commission for its approval.

Production 2,772,902
Decrease 9,321

Of lively interest to the marketing division is the supreme court decision in the West Virginia chain store case, which places leased service stations under the operation of the chain store tax.

Indicative of immense refinery construction projects under way or contemplated is an announcement that the Pure Oil Company plans to spend more than $1,000,000 in doubling the capacity of its Smiths Bluff, Tex., plant.

The prolific Senora sand, discovered in the Olympic pool in northwestern Hughes County, Oklahoma, has been found very productive in southern Okfuskee County, and either a new pool or an extension of the Olympic pool has been opened. It is expected 60 wells will be started in the north end of Oklahoma City if voters approve extension of drilling zones.

Rodessa's production rose to 45,625 barrels a day in the last week, result of a liberal production allowable per well in that North Louisiana field, along with a lively drilling campaign.

The new Amelia field, near Beaumont, Tex., which producers are watching, is expected to record a 2-mile northeast extension, as the second drilling well is running high on the structure. The important Titus County, Texas, well of Peveto and others had not yet been tested. Meanwhile other operators are starting work, confident that the Peveto well is a genuine discovery.

Among nine completions for the week in the Lea County, New Mexico, fields there were four which averaged more than 5,000 barrels per well. The largest of these had an initial natural flow of 11,640 barrels daily.

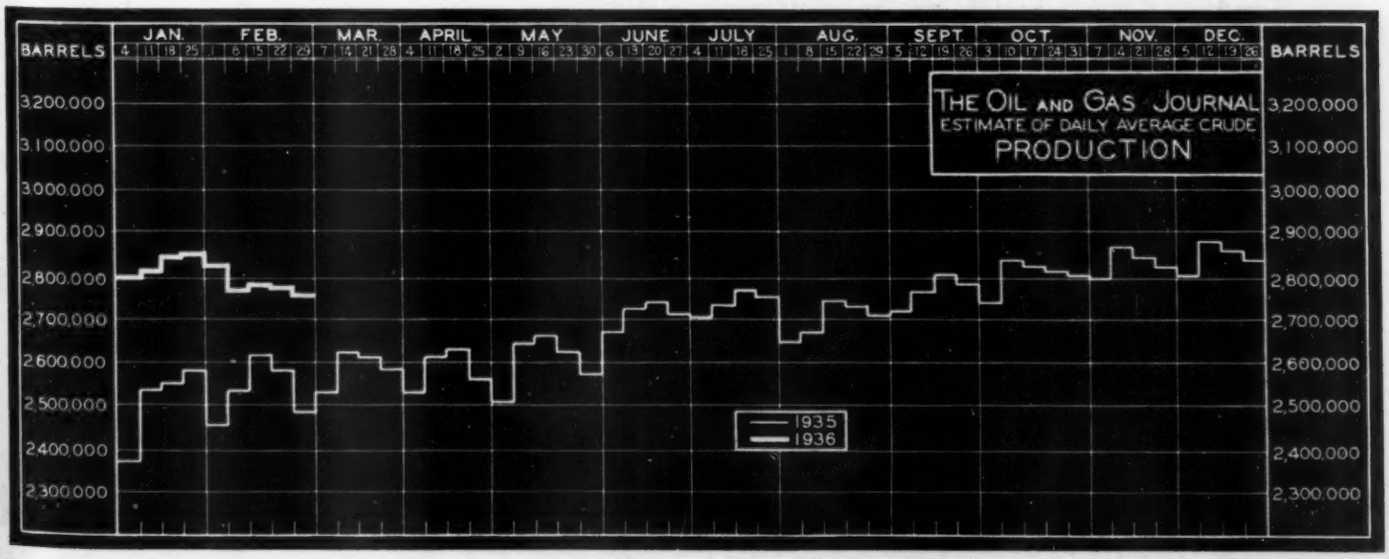
Daily Average Production for Week

	Feb. 29 1936	Feb. 22 1936	Mar. 2 1935
Oklahoma City	131,150	150,625	127,750
Seminole-St. Louis	94,625	92,775	86,300
Remainder of State	273,725	280,400	243,775
Total Oklahoma	499,500	523,800	457,825
East Texas	436,598	435,698	464,105
West Texas	162,202	160,953	143,885
North Texas	81,397	81,347	89,729
Texas Panhandle	60,347	62,753	62,873
East Central Texas	48,604	49,347	51,247
Gulf Coast—Texas	220,153	216,848	177,256
Southwest Texas	70,748	70,203	59,870
Total State of Texas	1,080,049	1,077,149	1,048,965
North Louisiana	66,190	60,880	22,980
Gulf Coast—Louisiana	133,750	133,200	94,502
Total Louisiana	199,940	194,080	117,482
Santa Fe Springs	43,750	43,750	35,900
Long Beach	69,250	70,150	58,500
Mountain View	27,600	28,250	11,500
Kettleman Hills	75,500	75,150	67,800
Remainder of State	349,400	354,950	286,500
Total California	565,500	572,250	460,200
Kansas	149,650	141,600	146,380
Arkansas	29,545	29,455	30,070
Eastern fields	104,500	102,100	104,000
Michigan	37,318	35,889	33,334
Rocky Mountain area	106,900	105,900	93,220
Total United States	2,772,902	2,782,223	2,491,476

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending February 22, 1936	310,665,000 bbls.
Week ending February 15, 1936	311,148,000 bbls.
Week ending February 23, 1935	338,281,000 bbls.



SPARKS FROM THE NEWS

Tempest?

With 1936 refinery runs 13.5 per cent ahead of last year, the familiar cloud returns.

Team-work

Splendid oil company statements for last year emphasize continued necessity of control.

Vigilance

Bill to prevent pollution of U. S. navigable waters is in Senate Committee on Commerce. Oil Industry would rue its passage. Is this being watched?

Bumsrush

Much-discussed marketing code about ready for submittal to Federal Trade Commission. Let's usher marginal contract practice to nearest exit.

Expansion

Six thousand-barrel skimming and cracking plant to be erected at Rodessa. It won't be long now.

Leak-proof

Remembering the immortal East Texas, Rodessa crude should be accounted for, barrel by barrel.

Novelty

Imagine seasoned oil men buying dry holes! It is being done for water disposal and incidental repressuring of interior wells.

Nichevo!

Congress may establish a Five-Year Fuel Research Commission to study gasoline-alcohol blends. Sounds like Moscow.

Nut-cracker

California crude prices go up, gasoline prices down. What's that about the upper and nether millstones?

Portent

Blue Monday arrived for major marketers. U. S. Supreme Court ruled unanimously that West Virginia chain store tax applies to filling stations operated under lease and agency contracts.

Johnstown

Serious floods are bound to come, hampering spring gasoline consumption. Refinery runs should be reckoned accordingly.

Ruts

Big year ahead for highway builders. Tough winter has caused road sagging and cracking. This is important consumption factor. Motorists don't like detour signs.

Tokens

Free trading with Italy again officially open to U. S. oil companies. What will be used for money?

Inequality

Kansas' conservative allowable is pinching in spots. Too bad Louisiana isn't similarly confronted. Their curtailment lesson is still to come.

Honk!

Washington hears new tax bill may raise gasoline tax. Motorists should get busy.

Demand

Crude stocks declined a half million barrels as refiners satisfied an abnormal fuel demand.

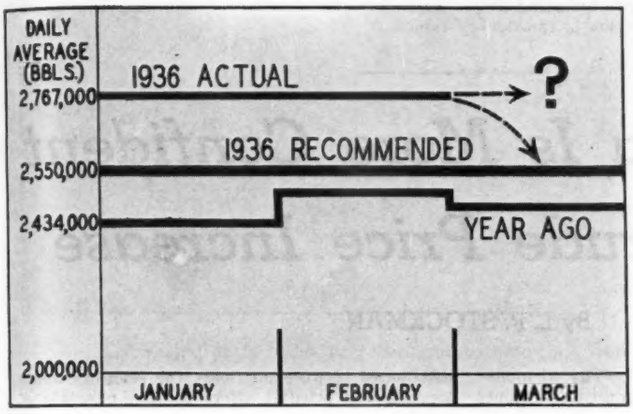
Exception

The government of Finland refuses to make alcohol blended motor fuel compulsory as "forcing motorists to buy what they do not want." Odd people, the Finns. They even pay their debts.

Sock!

President T. P. Henry, of the AAA, says it is high time the 40,000,000 motor owners and operators used the ballot box on the tax grabbers.

Gasoline Surplus and Rodessa Regarded as Possible Sources of Difficulty



Refinery average daily crude runs have averaged close to 2,767,000 bbls. to date this year, higher than the quantity recommended to be run and consistently higher than a year ago

By C. O. WILLSON

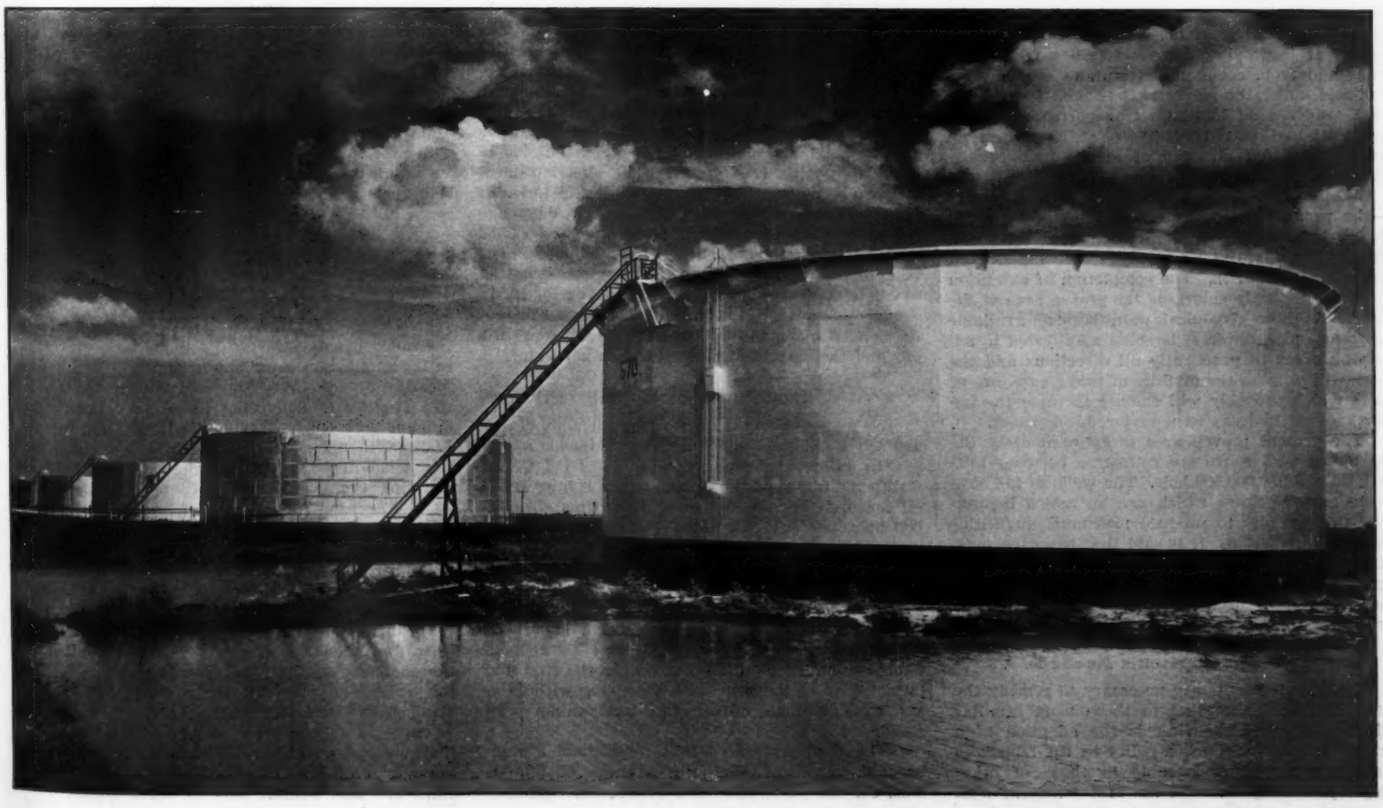
NEW YORK, Mar. 2.—Two possible sources of trouble later in the year were pointed to this week by both producers and refiners as they reviewed the operations for the first two months of 1936. The first has to do with the rapid accumulation of gasoline stocks at refineries and major terminals, a situation which assures that inventories on March 31 will be several million barrels greater than statisticians believe desirable on that date. The other possible trouble maker is the Rodessa field of Louisiana, which in the opinion of many is a more serious threat to the stability of 1936 markets than is the large excess gasoline supply since the start of the year.

In regard to the gasoline situation it is contended by some that the weather is responsible for the excessive gasoline accumulations and that a return to normal conditions will result in a quick improvement in actual consumption and end the unbalanced situation in which between 6,000,000 and 7,000,000 bbls. were added to storage during February. Others, however, do not believe that the significance of recent refinery operations can be dismissed so lightly and they feel the large gasoline production and disappointing consumption require immediate attention with adjustments made in future operations for the entire country so that the refinery inventory situation will be in line with recommendations not later than May 1.

While weather conditions unquestionably have been an important factor in bringing about the rapid accumulation of gasoline stocks, the available information indicates that even with normal conditions additions to inventories would have been at too rapid a rate. The A.P.I. Committee on Supply and Demand in January, in its first report covering recommended operations for the first quarter of 1936, estimated that average runs of 2,555,000 bbls. daily would be sufficient to take care of an 8.1 per cent increase in motor fuel demand. This provided for a seasonal increase in stocks from January 1 to March 31 of approximately 10,000,000 bbls. If this plan of operation had been followed, the stocks of finished and unfinished gasoline on March 31 would have totaled 66,000,000 bbls. which the committee felt would be in line with working requirements at that time of the year.

The actual operations for the first eight weeks of the new quarter show a wide variation from the recommendation. The weekly reports covering daily crude runs to stills as estimated by the A.P.I. comparable to the Bureau of Mines monthly data, show that the crude runs to stills averaged 2,767,000 bbls. daily or 8.3 per cent more than the recommendation and 13.5 per cent greater than the same period last year.

Stocks of finished and unfinished gasoline on February 22 were 69,353,000 bbls. or more than 3,000,000 bbls. greater than the recommended total



for March 31. With these data before them and increases in stocks assured over the next month, statisticians have estimated stocks will total around 75,000,000 bbls. by March 31.

Effects of Weather, Too

The recent cold weather has tended to unbalance refinery operations from two angles. It has decreased gasoline demand consumption so that for the first two months of the year, instead of an 8 per cent gain over the same period in 1935, actual purchases by motor vehicle owners probably were about the same as last year. At the same time the low temperatures have brought a record demand for furnace oils and other distillate fuels. Many refiners have felt compelled to maintain heavy crude runs to stills in order to have the oils to supply their customers. This has brought the suggestion that in future studies aimed to project refinery operations over a period of several months that consideration be given to the seasonal demands for fuels as well as gasoline.

Just how serious the present stock situation will prove to be it is not possible to determine at this time. Many major companies ended last year with stocks at the lowest point in several years and they have been willing to make whatever additions were necessary and they have empty storage at this time. Tankcar prices as quoted by these companies have been firm over the month following the advances of January after crude oil price schedules were increased.

Smaller refiners who do not have the facilities for large storage programs have in several instances been forced to curtail operations due to their inability to dispose of current output and price cutting has been reported at scattered points in both wholesale and retail gasoline markets. There has been plenty of precedent in the past to indicate that a statistical situation such as just outlined, often results in serious price troubles by late spring and summer. It is in recognition of this fact that many are advocating a revised operating program for the next two or three months which will assure a sounder operating position for the refining branch of the industry.

Rodessa Looms

The Rodessa problem, according to those who have made a special study of that situation is more difficult of solution than that of the refinery division with indications that it will increase in importance. The Rodessa development is receiving more attention because its daily production has expanded to the point where the output exceeds the demands of those willing to pay posted prices at the wells. Excess supplies from daily runs and from accumulated storage are now being sold under the market. It is reliably reported that tendered oil has been transported to a Gulf terminal and moved coastwise at low prices in addition to that disposed of in the field for refining in both East Texas and North Louisiana.

While the amount involved so far is not large —the production of the entire field being about 40,000 bbls. daily—those familiar with field conditions say that it is certain to increase as new wells are brought in. The completion of extension tests is constantly enlarging the proven area of the field. As new geological data become available more and more interest is being manifested in adjoining areas in practically all directions and the year will witness the drilling of many exploratory tests which probably will further increase the importance of Rodessa as a major development.

The present proven area is approximately 10,000 acres with a reserve estimated between 150,000,000 and 250,000,000 bbls. The wells so far have large natural flows which are an added temptation to operators to produce maximum quantities over a short period. It is said that based on present drilling operations and assuming a continuance of the present state allowable of 500 bbls. daily per well, production of the field will increase to 100,000 bbls. daily by late spring.

Two Developments Needed

Two developments are necessary to remedy the Rodessa threat according to those most familiar with conditions. The first is the adoption of a proration and conservation policy by the Louisiana state government comparable to those of other major producing states of the Mid-Continent with assurance that production will be curtailed to the state's proportionate share of outlets. The second action needed is the entry of additional buyers into the field who are willing to pay posted prices for the crude, so that excess supplies will not be available at distress prices. It is said the latter aid to a stable market condition is assured, provided the first materializes. What has been said about Louisiana will also apply to Arkansas, should the Rodessa field's production be extended to that state as now appears probable.

Recently, cases are cited in which operators have been able to secure special permits from state officials which have enabled them to produce in excess of the 500-bbl. daily allowable and this has added to the difficulties of finding outlets for all of the current production of the field.

One major Louisiana operator says that the assumption by some that due to political conditions in Louisiana at this time, it will be impossible to secure the passage of an adequate conservation law which will permit cooperation with other interstate compact states, is unjustified. He says that while the state's finances are such that additional revenue is needed, its situation in that respect does not differ materially from any other oil state. He is of opinion that if influential political leaders and state officials were made aware of how proration policies were working out in other states and the price disaster which is certain to follow if production from its newest field is not curtailed in line with available markets, that the necessary cooperation can be obtained.

California Is More Confident After Crude Price Increase

By L. P. STOCKMAN

LOS ANGELES, Calif., Mar. 3.—The oil industry in California is anxiously awaiting the outcome of the announcement by the Standard Oil Co. of the crude price advance effective February 26.

During the past decade California marketers had been able to dump vast quantities of crude and refined oils on the Atlantic Seaboard for domestic consumption but this condition has passed due to higher prices for crude and refined oil in California and the rapidly increasing tanker rate which is almost prohibitive under present conditions. Fuel oil, for instance, cannot be laid down in New York at a figure low enough to compete with refinery residuum produced either on the Gulf Coast or along the Atlantic Seaboard.

Production Down

State production has been reduced approximately 125,000 bbls. per day since January 1, and a further reduction is expected within the next fortnight. This definitely indicates operators can be expected to cooperate with buyers whenever any problem arises that threatens to disrupt existing conditions. As in the past, about 5 per cent of the total number of operators will refuse to curtail their production but this overage will not void the curtailment program provided the remaining 95 per cent stay within their quota. All fields in the state with the exception of the districts mentioned are down to or within striking distance of the allowable. State production a few days ago was 29,700 bbls. per day in excess of 537,000 bbls. and the seven fields mentioned contributed 24,800 bbls. of the total overage. A most serious situation exists in the Dominguez field of Los Angeles Basin because lessors will not permit a reduction in production. An attempt is being made to iron this out and the curtailment committee is hopeful.

Standard's Statement

When announcing the new price schedule, Standard Oil Co. issued the following statement:

"In January of this year Standard Oil Co. of California informed those from whom it buys crude oil that existing production of approximately 680,000 bbls. per day threatened the entire oil industry of this state with disaster. It was estimated that to balance supply and demand, leaving petroleum stocks on December 31, 1936, at the same figure as on December 31, 1935, would require production of crude oil not in excess of 537,000 bbls. for each day of the year 1936. This figure contemplates additions to storage during the first and latter parts of the year with balancing withdrawals from storage during the intervening peak season.

"The company stated that if production were brought down to this daily average of 537,000 bbls. for the year, and such production equitably distributed between all fields, the company would increase the price it offers for the purchase of refinable crude oil to a base price of $1.10 per barrel for 27 degrees gravity Signal Hill crude oil (an advance of 20 cents per barrel), with differentials for other gravities according to usual practices, as well as an advance of at least 5 cents per barrel in the price for heavy crude oil.

"Committees of the industry, in a cooperative effort, subsequently fixed relative figures of lower production for the various fields upon a basis which operators generally considered equitable. In most of the fields the lower production figure has been achieved. In others substantial progress has been made, and in a few but little has been accomplished.

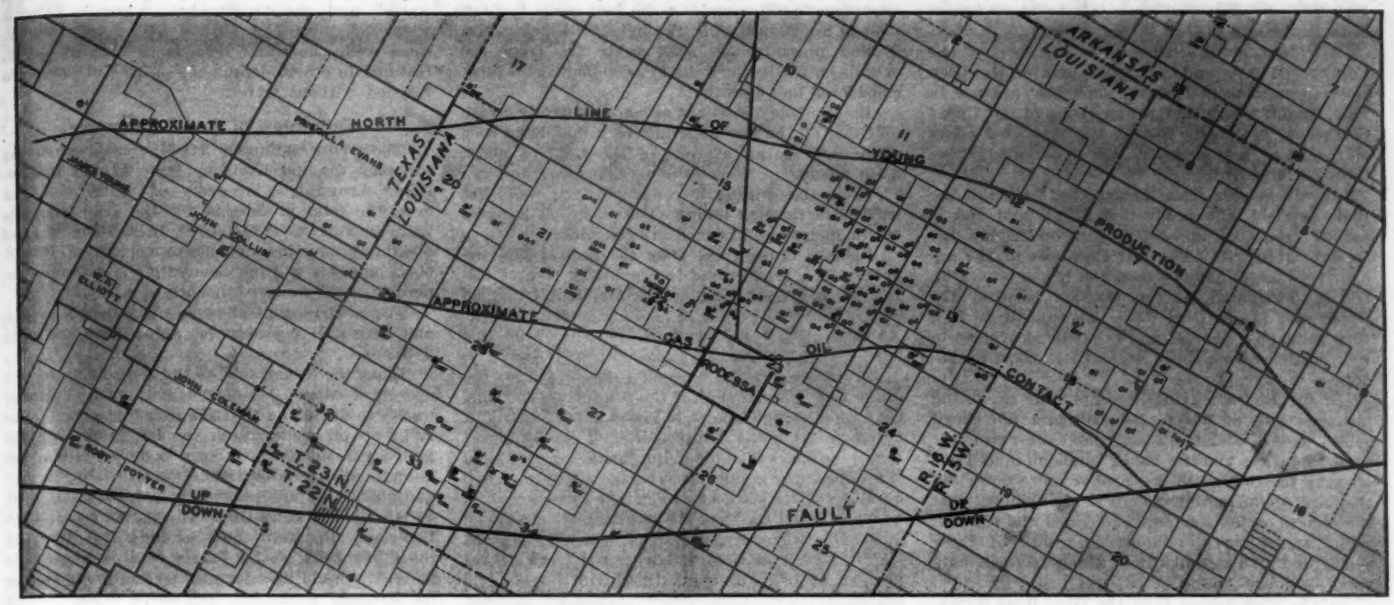
"Because of the fact that so many operators have already met the lower production figure, and because it is believed that all fields will shortly be fully cooperating, and pending the result of the efforts being made in those fields which have not met the lower production figure, the company will now make effective the higher prices indicated in its offer of January 18 in those fields where the lower production figure has been reached, as of 7 a.m., Wednesday, February 26, 1936. The offer of January 18 was conditioned upon the state's total production being an average of 537,000 bbls. daily for the entire year. In fields where the lower production figure has not been reached, prices will remain unchanged."

Leased Stations Are Included in Chain Store Tax

NEW YORK, Mar. 3.—Another legal angle to the much discussed West Virginia chain store tax in its application to oil marketing was decided on Monday by the U. S. Supreme Court. Chief Justice Hughes in delivering the court's unanimous opinion held Gulf Refining Co. could not recover $143,000 in taxes paid on 568 leased stations and the same decision covered the case of Ashland Refining Co. with fewer stations involved.

The decision follows that of last year in which the court upheld the validity of the West Virginia chain store tax in a case initiated by the Standard Oil Co. (New Jersey) in which only validity of the act as applied to company owned and controlled stations was involved. The Gulf case hinged on whether stations operated under lease and agency contracts involved a control by the company so that the operations came within the act which provided for a graduated tax on chain store operations in the state.

Since that time most companies have changed their contracts with dealers and it is claimed they are not subject to the tax under the West Virginia law and similar acts in other states.



Geological map indicating the boundaries of the Rodessa oil and gas fields, Caddo Parish, in northwestern Louisiana
(Base map by Globe Map Co.)

Rodessa Is Two-State Pool of Immense Potentiality

By A. F. CRIDER

SHREVEPORT, La., Mar. 3.—In the extreme northwest corner of Louisiana and extending across into the adjoining state of Texas, "Rodessa" is a name to be reckoned with as one of the latest oil threats of overproduction. If the extent of the producing area bears any relation to the structural outline indicated from well log data on the base of the Pecan Gap chalk, it will at least rival in length that of the now noted "East Texas field."

History of Development

Although there had been some wells drilled previously, the first real interest was awakend in the Rodessa area in 1922, when the Latex Oil Co. drilled a well in the east side of section 33-23n-16w, on the S. J. Hill land. In this well a considerable amount of free oil was present which had accumulated just where the bit cut the fault. From this encouragement there began a drilling campaign, broken at intervals, but to be renewed later, until the final discovery of a large gas well on the same tract of land and less than a quarter of a mile away from the location of the Latex well.

Until the completion of the oil well on the Young property, by the United Gas & Public Service Co. on July 1, 1935, from the Lower Glen Rose sand, the Rodessa field was considered as a gas structure only. The Young well, which had an initial production of 5,775 bbls. the first 24 hours through two 1-inch chokes, was the first oil produced in the field from the Glen Rose horizon, and this fact has changed the attitude of most of the operators and dispelled the prejudice against the Glen Rose as a commercial source of oil in this general region.

The credit of the discovery of the Rodessa field goes to Dan Perkins, whose faith in the territory was never shaken by a dozen or more wells which failed to produce in the sands which were the source of oil and gas in northern Louisiana and southern Arkansas. The logs of these "dead" wells were used to build up the subsurface picture which was kept constantly before the mind of R. H. Norton, who drilled the first producer, with the thought and the hope that "if the upper sands are barren, perhaps some horizon deeper down will pay off." Before the first gas well was completed and the hope of reaching "pay dirt" was fading, the counsel of J. Y. Snyder was often sought by Mr. Norton. It was the encouragement Norton received from the two geologists, Perkins and Snyder, and faith in their geologic knowledge and ability that kept him on the job until success crowned his efforts in the discovery of one of the great gas and oil fields of the United States.

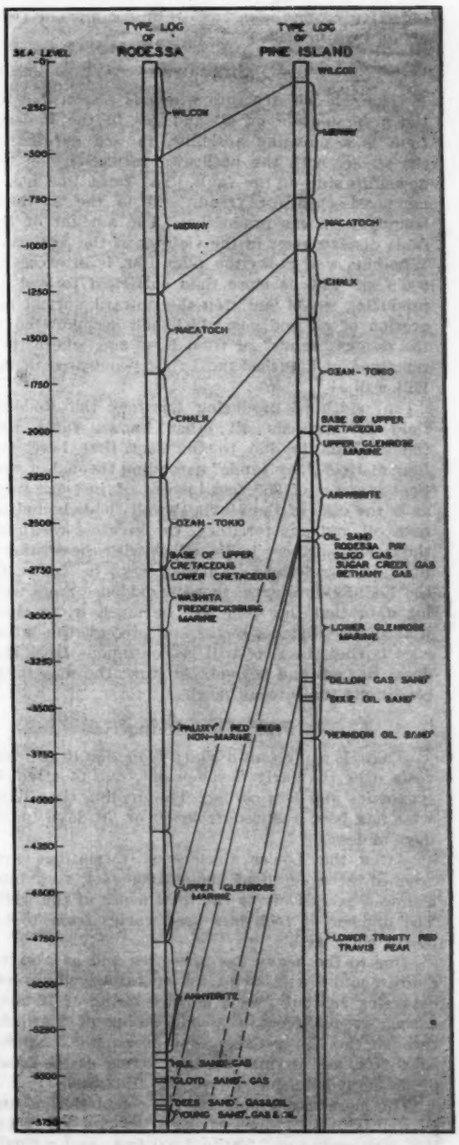
In 1929 and 1930, when the first producing gas well was drilled, 5,500 feet was considered deep drilling with the equipment then in use in North Louisiana. It required 11 months to complete the first well, with perhaps twice the cost of wells drilled in the same field at the present time.

In the Pine Island field the base of the anhydrite was penetrated before a depth of 3,000 feet was reached, and no one suspected that the base of the same horizon in the Rodessa area, only 16 miles away, would be 5,600 feet, or more.

What Logs Show

Logs of the Rodessa area, based on data from the bottom of the Pecan Gap, showed a definite closure against the fault, but it was a question whether the Upper Cretaceous structure would be flattened out by a thickening of the Comanche sediments. The geology was further complicated by lack of fossil key beds between the base of the chalk and the anhydrite. In the first Rodessa well, the objective was the Trinity sand, which was the source of oil and gas in the Pine Island field, so it required conviction, courage and a substantial bank roll to continue to drill when depths of 3,000 feet, 4,000 feet, and even deeper, were attained without finding any trace of anhydrite.

A type log of Pine Island and one of Rodessa below the base of the Wilcox, showing the great



Logs of Rodessa and Pine Island fields of Caddo Parish, in northwestern Louisiana

divergence of formations, are here given in graphic form. Lines connect contacts of the same formations in the two fields.

Attention is directed to the presence of the Paluxy red beds and the upper part of the Glen Rose formations in Rodessa and their absence in Pine Island, where they are eroded and the Upper Cretaceous sediments rest on the truncated edges of the Glen Rose limestone, about 200 feet above the first anhydrite.

As will be seen from the type log section of the Rodessa field, the production of oil and gas is coming from the upper 350 feet underlying the massive anhydrite. The full thickness of the anhydrite is more than 600 feet, and it has been arbitrarily designated as the division between the Upper and Lower Glen Rose. The anhydrite is a very persistent member and is easily recognized in well cuttings from south central Arkansas to Anderson County, Texas.

In the Rodessa area there are four producing horizons, two of which, the Hill and the Gloyd sands, have produced gas only, and the two lower sands, the Dees and the Young sands, produced gas up near the fault, and 200 feet or more down dip they are producing oil. There is a possibility that somewhere on the structure the Gloyd and the Hill sands will likewise produce oil. Both of these sands produce a rich distillate which may originate from oil down the dip.

In the Pine Island field the Glen Rose formation extends to a depth of about 3,900 feet. In the last 300 feet of the Glen Rose, and the first 100 feet of the underlying Travis Peak, one gas sand and two oil sands were discovered which were the objective of an intensive drilling campaign from about 1925 to 1930.

Structure

The type of structure which is responsible for the accumulation of oil and gas in the Rodessa field is a plunging anticline, faulted parallel to the strike, with the upthrown formations on the down-dip side of the fault. The fault line has a northeast-southwest trend, and is the southern boundary of gas production. The amount of the fault displacement in the vicinity of the Arkansas, Windham well in section 4-22n-16w, is in excess of 600 feet. This is more than sufficient to seal all producing sands and stop the upward normal migration of oil and gas which had accumulated in the porous "sands" of Glen Rose age, where they remained undisturbed until first penetrated in the Hill well.

In width of producing territory the Rodessa field far exceeds all other known fault line fields. This is due to the fact that here are four distinct "pay sands" extending through a vertical interval of 360 feet instead of just one sand as is the case of the Mexia-Powell field. Including both oil and gas territory, the greatest width of the field at present is 3½ miles, with the northern limit still undefined. Further west, in Texas, in the Lodi-Kildare area, there is evidence from well log data that the field will be much wider than it is in the Rodessa sector. At present, the inference is that the field will be continuous from Rodessa to Lodi and beyond. At least, the structural conditions indicate as much.

Field Operations

There is at present a sharp reduction in drilling costs over the early development, due to effected economies and less coring. The drilling time likewise has been reduced from 60 or 70 days to 40 days or less.

After the Lower Cretaceous formations are reached, at a depth of about 3,000 feet, rock bits are used exclusively to the total depth of the well. The number of rock bits used varies from 15 to 30 for each well.

Due to the heavy gas pressures and as a safeguard against wild wells, the operators, who were expecting gas only, set a surface string of 12-inch casing at 400 feet; a second string of 9⅝-inch through the Upper Cretaceous at around 3,200 to 3,600 feet, and a final 6⅝-inch string at the base of the anhydrite, just above the Hill sand.

The most recent plan for the completion of an oil well is to set 16-inch casing at around 400 feet; 10¾-inch casing at 2,200 to 2,300 feet; and a final string of 7-inch casing above the Young sand, shutting off the gas pressure from the upper gas sands.

Casing pressures, with one-eighth inch choke, vary from 1,000 pounds in the best wells to 2,000 pounds in smaller wells, through 15/64-inch choke. Tubing pressures on such wells are from 500 pounds on the better wells to 2,000 pounds on those considered less desirable.

Bottom-hole pressures are not generally available, but on the few wells in which they have been made indicate an average of the field of about 2,740 pounds.

After the drilling is completed, the wells are washed in through tubing. The waste oil is piped out of danger and burned in open pits.

Rodessa crude fresh from the well is 45½ degrees A.P.I. gravity and is practically free of sulfur. It is an excellent crude for light cracking, and gasoline thus made has a 72 to 74 octane ratio.

The price of the crude at present is $1.10 a barrel, with a state severance tax of 11 cents.

Until recently, the only pipe line outlet for the crude was through that of the Standard Pipe Line Co. of Louisiana. The Gulf Pipe Line Co. has built a line in from the Texas side, and the Magnolia Pipe Line Co. has another line under construction. With these three lines serving the field, they will be able to take care of production for some time.

The United Gas and the Arkansas Fuel Oil Co. own two gathering gas systems which collect gas from the Rodessa field and transport it to market through their main trunk lines which serve the immediate and outlying cities.

It was the custom in the early oil development of the field to drill completely through the Young sand. Soon water made its appearance but was later exhausted and proved to be only "trapped water" and not "bottom-hole water." Later a water level was established at —5,787 feet. In some wells the water level is as high as —5,765 feet and in others depths of —5,790 feet have been reached without water.

Estimates of Total Recovery

The writer estimates 5,000 acres of producing territory for the Louisiana side of the Rodessa field. Assuming a recovery of 30,000 bbls. per acre, the total production for the Louisiana side will amount to 150,000,000 bbls. The present monthly production amounts to more than 1,000,000 bbls., and this will increase with the average completion of 15 wells per month.

The present well allowable is 500 bbls. a day, and this will probably be reduced as the field develops.

What the Texas side of the field holds for the operators cannot be determined until additional wells are drilled on that side. Two large gas wells and two oil wells, equal in size to any on the Louisiana side, have been completed in Cass County. The territory looks most inviting in Cass and Marion Counties for a typical Texas oil field.

On all of the well defined structures of North Louisiana, the lower part of the Glen Rose and the upper beds of the Travis Peak offer perhaps as great possibilities for oil and gas production as the Rodessa zone. Any well to be drilled in this general region should make the Travis Peak sand the objective, unless production is found in some higher beds.

G. S. Rollin Resigns; A. J. Galloway Successor

George S. Rollin, for the past 17 years connected with the Roxana Petroleum Corp. and Shell Petroleum Corp. in various capacities, has resigned as vice president in charge of production in the Mid-Continent area effective March 1.

Mr. Rollin is to be succeeded in Tulsa by A. J. Galloway, vice president of the Shell Petroleum Corp., who has been in the St. Louis, Mo., office since February 15, 1934, when he moved from California to that city to become assistant to President Fraser. Mr. Galloway began his oil career as an assistant geologist in California in August, 1925, and three years later became an assistant in the president's office of the Shell Oil Co. and in September, 1930, was transferred to the manufacturing department, there as assistant to the manager. He returned to the president's office in October, 1932, and remained in that position until he moved to St. Louis in the early part of 1934.

GEO. S. ROLLIN

Mr. Rollin entered the geological department of the Roxana Petroleum Corp. in 1919. Later he was transferred to the production department and established the mining or "exploration" department and then assumed charge of the field work as general field superintendent with headquarters in Tulsa.

When the Roxana Petroleum Corp. was merged with the Shell Petroleum Corp. Mr. Rollin continued on but was transferred to the St. Louis general offices in 1927 as production manager in charge of all field work and in 1928 was elevated to a vice presidency in charge of production. In 1933 the field organization was divided into divisions and Mr. Rollin moved back to Tulsa and headed the organization here.

A. J. GALLOWAY

Marketing Code Approved at Chicago to Cover Area East of the Rockies

CHICAGO, Mar. 2.—The voluntary code of fair practices formulated at a meeting in Chicago February 5-7 of some 250 men representing the various interests involved in the marketing division of the oil industry was approved with minor changes at another meeting here Thursday. Instead of confining the code's operation to the Middle West, as originally planned, action was taken to effect its adoption in all areas east of the Rocky Mountains.

P. J. Schroeder, of the Petroleum Service Co., Minneapolis, Minn., who was chairman of the meeting in early February, served similarly at Thursday's meeting, which was attended by a committee authorized at the first meeting. The code was drafted at the first meeting by a committee of which Russell Williams, of Gasteria, Inc., Indianapolis, Ind., was chairman, from recommendations submitted by six subcommittees representing all marketing interests affected.

Committee of Three

A committee of three, appointed Thursday and representing key oil marketing groups, will undertake the work of extending the proposed code from a sectional to practically a national scale. This committee is composed of C. E. Arnott, Socony-Vacuum Oil Co., Inc., chairman, representing refiners; Paul E. Hadlick, National Oil Marketers Association, representing jobbers, and Wilmer R. Schuh, National Association of Petroleum Retailers, representing dealers.

Expressions of members of the group indicated a widespread feeling that the possibilities for success in establishing such a country-wide code were favorable.

In addition to directing its attention to the opportunities attaching to a national code, a middle western code was cinched by the February 27 committee meeting here. Acting for every leading oil marketing interest active in the Middle West, the committee approved the regional code, almost exactly as it was given its form in the February 5-7 conference. One or two minor changes were made.

Indications were that the attitude of the trade was one of complete unity as to the regional code at this meeting, whereas in the earlier conference, some dissension on various points was encountered.

The latest committee meeting followed ratification meetings of state oil associations and other interested groups. In each case, the proposed code was endorsed, although in one case, that of Iowa, a few jobber votes were recorded against it because of the omission of a provision for enforcement.

Exact plans as to the procedure of the committee appointed to work for national acceptance have not as yet been determined. It is expected that this work may occupy a period of several months.

Country-Wide Support Sought

General agreement was expressed by the representatives of all groups that the code's operation would be much more efficient even in the Middle West if it had country-wide acceptance than if its acceptance were limited to the territory from which original approval was obtained. It has been feared that the existence of sources of supply outside the purview of the limited territory code would imperil its success in the central states.

Accordingly, adherence work will be pushed in the East, the Southeast and the Southwest, including such refining districts as Pennsylvania, Kentucky, Atlantic Seaboard, Texas and Louisiana-Arkansas.

The principal change effected at the latest meeting when compared with the originally formulated code at the February 5-7 conference is the addition of a provision to the rule outlining definition of sales below cost as unfair trade practices. The

RUSSELL WILLIAMS

provision was added that this regulation should not apply to those cases where sales might be made below cost in order to meet competition.

In case the committee for national acceptance is unable to obtain such acceptance, it is now planned to present the code, as finally approved at the February 27 meeting, to the Federal Trade Commission, in order to obtain the commission's approval of it as a regional instrument.

Presentation of the code as a regional instrument in this case will be in charge of a committee appointed to represent all groups in the industry, as follows:

(Committee member first, alternate directly following each member.)

Major companies:

Allan Jackson, Standard of Indiana; Amos Ball, Standard of Indiana; H. J. Kennedy, Continental Oil; S. B. Wright, Texas Co.; H. T. Ashton, Lubrite division, Socony-Vacuum; B. E. Lakin, Shell Petroleum.

Jobbers: P. J. Schroeder, Petroleum Service; Paul D. Sweeney, Illinois Petroleum Marketers; W. R. McCain, Missouri Indiana Oil Men; Roy R. Fisher, National Oil Marketers; Paul R. Kempf, Michigan Petroleum Association; Rex Kent, Kansas Oil Men; O. D. Corey, Nebraska Petroleum Marketers.

Independent nonintegrated refiners: C. M. Boggs, Kanotex Refining Co.; A. E. Landsittel, Globe Oil & Refining Co.

Independent integrated refiners: B. L. Majewski, Deep Rock Oil Corp.; T. A. Helling, El Dorado Refining Co.

Dealers: J. Lawrence Hill, Rochester, N. Y.; W. Boutin, Lake Forest, Ill.; Fred L. Brewer, LaGrange, Ill.; Roy Bosworth, Chicago; William Hartman, Detroit; E. Chat Shanks, Milwaukee.

Cooperatives: A. L. Stallings, Indiana Farm Bureau; J. L. Nolan, Farmers Union Central Exchange.

Independent brands: Russell Williams, Independent Brand Association; B. L. Ziehler, Producers Oil, Indianapolis.

Trackage operators: R. E. Christopherson, Direct Service; S. M. Burnap, Direct Service.

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OBITUARY

CHARLES F. GRIFFIN, 90, veteran refiner, who at his retirement in 1932, was the oldest active oil worker in the country, died February 25 at Rouseville, Pa.

Born in Orchard Park, N. Y., he went into the oil fields of Venango County, Pennsylvania, when a young man and for nearly 70 years was engaged in various phases of the business. In 1864 he went to Petroleum Center where he secured employment in the Anno Lucis refinery. His first employment was in the barrel house, then on the stills, and finally he was made treater. September 1, 1865, he went to the old Storey farm where he engaged in drilling and pumping, then to Pleasantville fields, the Fagundus fields, and Balltown where he was foreman for Balltown Oil Co. and assisted in bringing in many wells with a production range of from 300 to 3,000 bbls.

In 1897 he returned to Rouseville and began his long employment with the Germania Refining Co., now the Pennzoil company. For five years he fired stills and then operated the pumps up to his retirement in 1932.

J. S. FOLLETT, 86 who entered the oil industry as a boy at Oil Creek, Pa., died suddenly Sunday in Tulsa. He was selected as the "Grand Old Man of Tulsa" at the International Petroleum Exposition in May, 1934, and was given a gold medal. He was born at Warren, Pa. Most of his life was spent in eastern fields. He was successively roustabout, driller, producer and manufacturer of torpedoes at Petrolia, Pa. Later, he went to Ohio, where he lived at Woodfield and Marietta. He came to Tulsa in 1921.

CHARLES J. LeCLARRE, 55, died recently at his home in Electra, Tex. He had been employed by Magnolia Petroleum Co. for 17 years.

W. F. BRONSELL, 59, of Edna, La., pipe line superintendent of the United Gas Co., died in a Houston, Tex., hospital, February 27.

DAWSON H. SKEEN, president of D. H. Skeen & Co., Chicago, power equipment sales engineer, died at his home in Flossmoor, Ill., February 23. He was a member of the American Society of Mechanical Engineers and the Western Society of Engineers.

A. E. BUCHANAN, 58, former manager of the Standard Oil Co. of Cuba, died February 28 at Havana, Cuba. Mr. Buchanan was a native of Marshall, Tex., and went to Cuba in 1929.

GEORGE F. CRUICKSHANK, 47, former district superintendent of the Southern Counties Gas Co., died at his home in Santa Monica, Calif., from a heart condition aggrevated by pneumonia.

JAMES PEAT, who was the oldest oil operator in Canada, died at Petrolia, Ontario, recently, aged 94. A native of Scotland, he brought to Petrolia from Pennsylvania in 1870 the first cable tool rig ever used in Canada, and became widely known as an oil operator and drilling contractor.

Tests on Three Grades of Gasoline Sold by the Same Twelve Refining Companies

COMPANY A

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	69	65	70	70	70
Initial	100	90	90	91	89
10 per cent	152	130	130	115	128
20 per cent	180	156	160	135	157
50 per cent	258	234	237	216	231
90 per cent	360	352	348	355	351
Endpoint .	400	393	394	417	405
Recovery .	97.0	96.0	96.0	96.0	96.0
V. P.	8.2	10.7	9.7	11.2	10.4
Color	20	C	C	C	C

Premium Grade

Octane No.	75	77	77	76	76
Initial	98	90	92	88	100
10 per cent	150	136	136	124	120
20 per cent	178	169	162	148	141
50 per cent	248	260	236	230	221
90 per cent	350	360	342	356	317
Endpoint .	394	394	394	402	364
Recovery .	97.5	96.0	97.0	97.8	97.0
V. P.	7.8	10.4	8.9	12.3	10.7
Color	red	red	red	red	red

Third Grade

Octane No.	56	54	52	50	49
Initial	96	90	98	104	104
10 per cent	140	137	150	162	166
20 per cent	174	164	188	194	194
50 per cent	290	257	264	270	256
90 per cent	394	366	376	380	354
Endpoint .	415	409	428	426	396
Recovery .	97.0	98.0	97.5	98.0	97.0
V. P.	7.8	7.2	7.5	6.6	6.9
Color	C	C	30	22	17

COMPANY B

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	61	66	67	70	70
Initial	89	101	90	87	86
10 per cent	144	160	132	121	120
20 per cent	180	190	162	143	146
50 per cent	242	262	241	225	230
90 per cent	374	370	360	357	362
Endpoint .	400	410	406	398	404
Recovery .	95.0	98.0	96.0	96.5	96.0
V. P.	11.3	9.2	10.0	10.5	11.3
Color	30	25	C	C	C

Premium Grade

Octane No.	70	72	70	76	77
Initial	92	94	90	91	86
10 per cent	136	136	128	119	124
20 per cent	160	156	154	141	148
50 per cent	228	218	224	208	230
90 per cent	340	322	326	327	350
Endpoint .	384	382	382	378	386
Recovery .	96.0	97.0	97.0	97.0	96.0
V. P.	9.5	10.2	9.4	9.8	12.4
Color	...	...	C	red	red

Third Grade

Octane No.	54	54	58	52	56
Initial	94	104	92	92	94
10 per cent	150	156	146	138	148
20 per cent	190	185	175	167	182
50 per cent	276	260	242	242	258
90 per cent	378	385	345	363	377
Endpoint .	426	427	420	421	420
Recovery .	96.5	97.0	97.0	96.5	95.0
V. P.	9.0	7.5	9.4	9.2	10.8
Color	C	C	C	30	20

COMPANY C

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	48	65	66	70	68
Initial	98	100	94	94	92
10 per cent	156	145	138	131	137
20 per cent	188	176	162	155	167
50 per cent	264	258	244	233	247
90 per cent	380	372	368	365	365
Endpoint .	417	417	408	407	424
Recovery .	97.5	96.0	97.5	97.0	96.5
V. P.	7.5	8.4	8.2	9.2	10.2
Color	20	14	C	C	C

Premium Grade

Octane No.	72	78	76	75	76
Initial	102	92	90	100	90
10 per cent	152	130	137	138	124
20 per cent	180	154	170	156	149
50 per cent	250	217	242	232	232
90 per cent	362	326	356	368	365
Endpoint .	400	382	394	405	408
Recovery .	97.5	96.0	97.0	98.0	96.0
V. P.	7.7	10.0	8.9	7.5	9.4
Color	red	red	red	red	red

Third Grade

Octane No.	49	49	51	53	45
Initial	102	98	92	98	104
10 per cent	160	145	140	139	149
20 per cent	188	177	174	168	294
50 per cent	262	274	256	251	262
90 per cent	386	374	380	382	384
Endpoint .	421	420	424	417	424
Recovery .	97.5	97.0	97.0	96.5	97.0
V. P.	7.3	7.3	10.0	8.6	5.6
Color	C	22	28	20	21

COMPANY D

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	60	62	70	68	69
Initial	95	92	88	90	91
10 per cent	142	138	128	126	125
20 per cent	176	167	153	152	160
50 per cent	258	248	238	236	242
90 per cent	374	382	359	364	370
Endpoint .	418	419	405	404	408
Recovery .	97.0	96.0	96.0	97.0	96.0
V. P.	8.8	10.0	11.0	10.8	10.4
Color	22	27	C	C	C

Premium Grade

Octane No.	75	76	...	74	76
Initial	97	96	...	96	92
10 per cent	148	136	...	148	127
20 per cent	178	155	...	164	148
50 per cent	248	224	...	240	227
90 per cent	350	328	...	357	357
Endpoint .	396	385	...	404	406
Recovery .	97.0	96.5	...	98.0	97.0
V. P.	7.4	9.6	...	9.1	9.1
Color	red	red	...	red	red

Third Grade

Octane No.	46	50	52	48	49
Initial	106	102	94	112	94
10 per cent	168	156	144	173	146
20 per cent	198	190	170	198	178
50 per cent	274	280	252	272	253
90 per cent	388	396	378	378	369
Endpoint .	429	426	432	426	409
Recovery .	98.0	97.0	98.0	98.0	97.0
V. P.	5.7	6.6	8.0	5.2	7.6
Color	C	30	30	26	20

COMPANY E

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	58	61	69	69	70
Initial	100	98	87	88	88
10 per cent	150	150	126	137	129
20 per cent	178	180	156	171	159
50 per cent	250	260	240	251	246
90 per cent	350	374	364	362	368
Endpoint .	395	418	420	424	415
Recovery .	97.5	97.0	96.0	96.5	95.5
V. P.	8.0	8.4	11.6	9.7	10.8
Color	26	26	C	C	C

Premium Grade

Octane No.	75	65	77	74	77
Initial	98	118	94	92	83
10 per cent	150	178	140	138	132
20 per cent	176	200	166	169	162
50 per cent	250	262	246	254	242
90 per cent	352	376	366	370	356
Endpoint .	395	426	420	418	417
Recovery .	97.5	98.0	97.5	97.0	97.5
V. P.	7.3	4.4	8.7	9.0	9.6
Color	red	red	C	red	red

Third Grade

Octane No.	50	52	54	54	52
Initial	102	95	90	92	95
10 per cent	158	150	126	137	140
20 per cent	196	187	171	169	173
50 per cent	286	270	257	261	249
90 per cent	392	385	380	377	375
Endpoint .	434	430	428	425	428
Recovery .	97.5	98.0	97.5	97.0	97.5
V. P.	5.7	7.2	10.0	9.3	8.9
Color	C	C	30	30	24

COMPANY F

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	60	64	70	69	70
Initial	84	90	92	84	84
10 per cent	116	122	123	109	114
20 per cent	132	142	140	120	129
50 per cent	206	219	210	161	195
90 per cent	371	386	362	213	350
Endpoint .	420	418	412	405	412
Recovery .	97.0	96.0	97.5	97.8	97.0
V. P.	12.0	10.7	10.6	12.6	12.6
Color	36	17	C	C	C

Premium Grade

Octane No.	71	78	78	75	76
Initial	94	92	92	92	95
10 per cent	128	122	124	111	114
20 per cent	146	140	142	118	122
50 per cent	225	209	210	142	158
90 per cent	368	374	335	261	312
Endpoint .	414	423	388	385	406
Recovery .	98.5	97.0	98.0	96.5	97.0
V. P.	8.5	10.5	9.5	11.5	11.3
Color	red	red	red	red	red

Third Grade

Octane No.	46	51	53	51	51
Initial	104	90	89	101	100
10 per cent	166	135	135	153	154
20 per cent	204	170	173	185	186
50 per cent	246	235	240	262	264
90 per cent	389	387	356	375	381
Endpoint .	422	421	392	426	424
Recovery .	97.5	97.0	97.0	97.0	97.0
V. P.	5.0	5.4	10.0	6.7	6.5
Color	C	C	30	8	21

COMPANY G

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	66	60	70	69	68
Initial	96	94	88	87	85
10 per cent	140	140	134	127	117
20 per cent	174	165	164	158	141
50 per cent	257	251	242	241	237
90 per cent	350	362	354	359	358
Endpoint .	382	397	392	394	395
Recovery .	97.0	98.0	97.0	96.0	96.0
V. P.	8.4	7.5	9.7	10.7	11.8
Color	21	30	C	C	C

Premium Grade

Octane No.	77	79	71	75	76
Initial	99	96	91	89	89
10 per cent	146	145	134	130	128
20 per cent	178	173	170	161	156
50 per cent	242	240	252	243	230
90 per cent	342	352	356	364	336
Endpoint .	378	388	392	392	394
Recovery .	96.0	95.5	92.0	95.0	96.0
V. P.	9.3	8.5	9.8	9.7	11.5
Color	red	red	red	red	red

Third Grade

Octane No.	51	56	53	52	59
Initial	103	92	88	92	90
10 per cent	164	139	134	143	144
20 per cent	200	166	174	182	172
50 per cent	288	254	169	267	250
90 per cent	368	360	356	375	363
Endpoint .	402	399	392	408	392
Recovery .	96.0	98.5	97.0	97.0	95.0
V. P.	6.4	7.4	10.0	8.5	11.7
Color	C	28	30	20	30

COMPANY H

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	65	66	68	70	69
Initial	95	95	94	93	90
10 per cent	144	132	146	135	136
20 per cent	176	160	174	164	170
50 per cent	253	245	252	248	259
90 per cent	365	353	356	354	365
Endpoint .	402	394	394	399	396
Recovery .	96.0	97.0	96.0	96.5	96.5
V. P.	8.2	8.4	7.3	8.2	9.5
Color	28	18	C	C	C

Premium Grade

Octane No.	75	78	76	72	...
Initial	96	98	92	104	...
10 per cent	151	156	137	150	...
20 per cent	172	182	170	173	...
50 per cent	246	244	246	246	...
90 per cent	371	360	356	354	...
Endpoint .	404	406	390	408	...
Recovery .	95.5	97.0	97.0	97.5	...
V. P.	7.0	7.7	8.4	6.5	...
Color	red	red	C	red	red

Third Grade

Octane No.	56	49	53	46	46
Initial	97	96	95	92	100
10 per cent	151	143	150	142	150
20 per cent	189	179	180	183	179
50 per cent	269	272	250	283	267
90 per cent	384	371	377	392	382
Endpoint .	422	418	422	427	427
Recovery .	97.0	97.0	98.0	96.5	98.0
V. P.	7.0	7.5	7.8	8.2	7.9
Color	C	19	...	30	19

COMPANY I

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	64	66	70	68	69
Initial	90	90	100	92	90
10 per cent	140	132	150	138	140
20 per cent	178	162	180	167	170
50 per cent	256	238	252	247	246
90 per cent	370	350	350	364	352
Endpoint .	405	398	412	401	398
Recovery .	95.0	96.0	98.0	96.5	97.5
V. P.	11.0	10.2	7.5	9.0	10.6
Color	C	C	...	C	C

Premium Grade

Octane No.	76	76	73	76	76
Initial	101	98	98	95	100
10 per cent	152	151	149	140	148
20 per cent	182	180	176	165	170
50 per cent	256	251	244	218	223
90 per cent	362	360	350	305	307
Endpoint .	394	399	394	368	363
Recovery .	96.0	97.5	97.0	97.0	97.0
V. P.	7.0	7.4	7.2	8.6	7.6
Color	red	red	red	red	red

Third Grade

Octane No.	46	60	53	54	50
Initial	116	94	106	96	100
10 per cent	176	154	160	148	158
20 per cent	205	186	190	183	187
50 per cent	267	258	251	256	262
90 per cent	367	361	352	373	376
Endpoint .	425	419	403	416	418
Recovery .	97.0	98.0	98.0	98.0	98.0
V. P.	4.0	7.8	6.2	7.5	6.5
Color	22	22	16	zero	C

COMPANY J

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	60	66	68	69	69
Initial	98	89	98	95	87
10 per cent	148	132	140	129	129
20 per cent	180	156	170	162	160
50 per cent	258	234	238	246	247
90 per cent	370	348	350	354	354
Endpoint .	404	388	398	387	387
Recovery .	97.0	96.0	97.5	96.5	96.0
V. P.	7.2	9.8	7.8	10.2	11.1
Color	29	27	C	C	C

Premium Grade

Octane No.	76	78	78	74	72
Initial	99	95	94	91	93
10 per cent	143	140	136	130	142
20 per cent	176	170	162	162	180
50 per cent	254	250	220	246	260
90 per cent	364	352	320	360	376
Endpoint .	398	381	378	387	411
Recovery .	97.0	96.0	97.0	95.0	96.0
V. P.	8.1	9.2	9.5	11.0	8.5
Color	red	red	red	red	red

Third Grade

Octane No.	52	55	46	55	...
Initial	104	97	94	97	...
10 per cent	164	154	161	148	...
20 per cent	196	184	194	186	...
50 per cent	270	262	272	267	...
90 per cent	374	387	382	380	...
Endpoint .	414	434	418	420	...
Recovery .	98.0	96.0	98.0	97.0	...
V. P.	6.4	7.6	7.3	7.8	...
Color	C	21	30	15	...

COMPANY K

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	58	66	68	68	69
Initial	90	87	88	87	85
10 per cent	134	137	126	118	116
20 per cent	168	174	152	146	139
50 per cent	260	259	226	237	221
90 per cent	365	367	332	357	349
Endpoint .	397	396	387	394	394
Recovery .	97.5	95.0	96.0	95.5	96.0
V. P.	9.1	10.4	10.8	12.4	12.6
Color	30	26	C	C	C

Premium Grade

Octane No.	74	76	76	76	77
Initial	94	88	94	89	87
10 per cent	137	136	136	124	124
20 per cent	163	162	161	154	149
50 per cent	232	240	238	225	204
90 per cent	325	345	349	328	307
Endpoint .	375	389	389	375	366
Recovery .	98.0	96.0	97.0	96.0	96.0
V. P.	7.6	10.0	8.2	10.2	11.1
Color	red	red	C	red	red

Third Grade

Octane No.	49	55	55	60	57
Initial	96	96	88	91	100
10 per cent	152	148	134	142	152
20 per cent	178	190	176	175	184
50 per cent	277	284	265	245	250
90 per cent	382	384	370	359	362
Endpoint .	434	423	414	413	421
Recovery .	98.0	97.0	98.0	96.5	97.0
V. P.	6.7	7.4	8.6	8.6	8.7
Color	C	27	27	18	22

COMPANY L

Regular Grade

	1932	1933	1934	1935	1936
Octane No.	67	68	68	70	71
Initial	95	98	100	89	90
10 per cent	145	148	150	133	128
20 per cent	175	177	179	161	156
50 per cent	254	251	250	229	230
90 per cent	374	362	346	322	370
Endpoint .	410	426	404	369	432
Recovery .	96.5	96.5	97.0	96.0	95.0
V. P.	8.8	9.7	9.2	10.6	11.7
Color	C	C	C	C	C

Premium Grade

Octane No.	76	78	76	77	77
Initial	96	96	90	95	89
10 per cent	140	136	137	134	130
20 per cent	165	160	162	158	157
50 per cent	224	230	224	215	224
90 per cent	332	351	324	315	332
Endpoint .	388	432	412	383	392
Recovery .	96.5	94.0	97.0	96.5	95.0
V. P.	9.5	10.0	9.2	10.0	11.4
Color	red	red	red	red	red

Third Grade

Octane No.	48	54	51	52	51
Initial	107	102	101	95	106
10 per cent	174	160	160	154	164
20 per cent	302	190	180	186	191
50 per cent	255	260	247	250	252
90 per cent	362	361	354	347	356
Endpoint .	434	440	431	425	412
Recovery .	98.0	97.5	97.5	97.0	97.0
V. P.	6.6	6.2	6.0	7.0	6.5
Color	C	C	20	20	16

Survey of Winter Motor Fuel Shows Temporary Halt in the Octane Race

By W. T. ZIEGENHAIN

Refiners and marketers of motor fuels throughout the Middle West have, temporarily at least, halted the race to supply constantly increasing antiknock value to their products and are now focusing attention upon the starting qualities of all three grades of gasoline offered. A substantial increase in the average vapor pressure has resulted.

This conclusion is drawn from the results of The Oil and Gas Journal's 1936 "Survey of Winter Motor Fuels" and when carried further into detail it should be pointed out that the octane value of the regular grade remained at 69 while the Reid vapor pressure rose from 10.4 pounds in 1935 to 11.1 pounds this year; the average premium grade of motor fuel increased in octane value from 75 a year ago to 76 this year while the vapor pressure increased from 9.6 pounds to 10.2 pounds; the octane value of the third grade material dropped one point to 51 this year, and showed an increase in the average vapor pressure from 7.8 pounds to 8.0 in 1936.

These data represent a recapitulation of the laboratory analyses made on samples of gasoline collected from company-owned filling stations in Cleveland, Chicago, Kansas City, Fort Worth and Tulsa. The same laboratory has conducted these tests year after year since 1928 so the averages presented here are comparable and may be taken to reveal trends in motor fuel quality.

While the samples collected came from the same company stations year after year, it cannot be said definitely that in each instance the gasoline was necessarily made in the refinery of that particular company. This is mentioned as "gasoline swapping" or "trading" has become a general practice where a mutual transportation saving can be effected and where gasoline may be supplied from the outside which meets prescribed characteristics.

Companies operating stations from which samples were purchased include Standard Oil Co. of Ohio, Skelly Oil Co., Cities Service Oil Co., Continental Oil Co., Barnsdall Oil Co., Mid-Continent Petroleum Corp., Phillips Petroleum Co., Sinclair Refining Co., Magnolia Petroleum Co., Gulf Oil Corp. of Pennsylvania, Texas Co. and Standard Oil Co. (Indiana). While this list does not include several major companies operating in the middle-western states it is representative and has been adhered to because of the need to carry the work forward each year on the basis the survey was undertaken in 1928.

Table of Results

The accompanying table reveals the findings in a concise form but attention is briefly called to the general improvement in quality recorded for the regular and premium grades of motor fuel, while the third grade has not received much attention; improved volatility as measured by the initial and 10 per cent points has been pronounced for the regular and premium grades, but the opposite occurred this year in the third grade.

Summarizing the results of the survey and attempting to forecast the direction in which motor fuel quality will move, it appears reasonable that the advancement of octane values on motor fuels will continue more slowly than over the past five years, that the improvement in this direction must await the building of new cracking equipment among refineries generally and the principal early improvement in the antiknock characteristics of gasoline will be in aviation motor fuels.

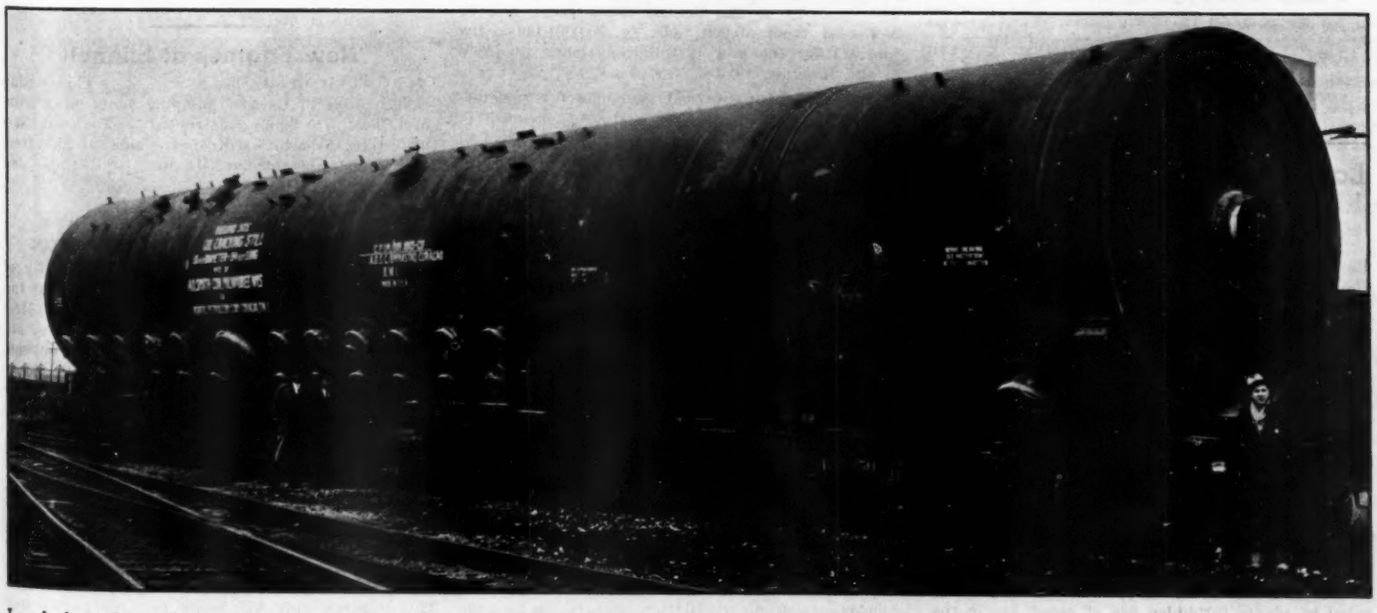
It is also probable that seasonal requirements will guide the trend in vapor pressure characteristics and that a more liberal attitude will be adopted by federal and state government agencies, which at this point, because of iron-clad specifications, may be withholding fuel of higher but more satisfactory vapor pressure from the market.

Trend in Quality

Average of laboratory tests made on samples of winter grade gasoline purchased at scattered points in middle western states from representative company-operated stations.

	1932	1933	1934	1935	1936
Regular Grade					
Octane number	61	65	69	69	69
Initial point, °F.	94	94	92	90	87
10 per cent, °F.	143	139	135	127	127
20 per cent, °F.	173	166	163	153	155
50 per cent, °F.	256	247	242	231	236
90 per cent, °F.	377	365	354	352	359
Endpoint, °F.	404	406	403	400	406
Recovery, per cent	96.7	96.5	96.7	96.4	96.2
R.V.P., pounds	9.0	9.5	9.5	10.4	11.1
Premium Grade					
Octane number	74	76	75	75	76
Initial point, °F.	97	96	93	94	91
10 per cent, °F.	146	142	136	132	129
20 per cent, °F.	171	177	163	157	153
50 per cent, °F.	243	237	235	225	223
90 per cent, °F.	352	350	344	338	338
Endpoint, °F.	393	399	394	392	392
Recovery, per cent	96.9	96.4	97.1	96.9	96.4
R.V.P., pounds	8.1	9.0	8.8	9.6	10.2
Third Grade					
Octane number	51	53	53	52	51
Initial point, °F.	102	96	94	97	99
10 per cent, °F.	152	148	146	148	154
20 per cent, °F.	193	181	180	181	185
50 per cent, °F.	276	264	252	261	257
90 per cent, °F.	380	368	367	373	371
Endpoint, °F.	426	426	425	421	416
Recovery, per cent	97.3	97.3	97.5	97.0	96.7
R.V.P., pounds	6.5	7.6	8.4	7.8	8.0

PROBABLY THE LARGEST FRACTIONATING TOWER EVER BUILT FOR A CRACKING UNIT



Loaded on three flat cars it is on the first leg of its journey to Curacao, Netherlands West Indies, where it will form a part of a three-coil selective cracking Dubbs unit. The tower is fusion-welded, 94 feet long, 13 feet in diameter, wall 1⅝ inches thick, and weighs 150 tons

Natural Gasoline

Production of Natural Gasoline Remains Same in California

Natural gasoline production in California during January, 1936, remained at 40,000 bbls. daily, according to the Bureau of Mines report for that month, but refinery utilization dropped 3,000 bbls. daily to 30,000 bbls. daily and shipments decreased 50 per cent to 1,000 bbls. daily. Stocks increased at an average of 7,000 bbls. daily, or a total of 207,000 bbls., and at the end of the month were 1,776,000 bbls., which figure is, however, 895,000 bbls. under January, 1935, stocks. There were 89 plants in operation during the month with a daily operating capacity of 2,094,950,000 feet.

Daily average production of liquefied petroleum gases decreased from 1,385 bbls. to 1,311 bbls. of which 210 bbls. was produced at refineries in January. Daily average sales increased from 1,506 bbls. to 1,071 bbls.

Still gas production during January amounted to 1,886,491,000 feet, equivalent on a B.t.u. basis to 477,345 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS. JANUARY, 1936

Field—	Gas treated (M.C.F.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	65,758	115,125
Kettleman Hills	11,978,583	15,354,808
Midway-Sunset	1,213,622	2,377,229
Mountain View	1,877,482	1,274,696
Miscellaneous	2,503,755	1,653,868
Coastal region:		
Elwood	541,495	965,538
Rincon	76,931	132,418
Santa Maria	131,908	346,469
Ventura Avenue	3,745,399	4,600,492
Miscellaneous	329,880	310,392
Los Angeles Basin:		
Brea-Olinda and Coyote	661,363	1,774,572
Domingues	1,339,499	1,853,664
Huntington Beach	2,235,054	4,112,986
Inglewood	229,808	362,647
Long Beach	2,291,233	7,864,448
Playa Del Rey	578,250	1,470,141
Richfield	337,585	437,518
Rosecrans	692,312	785,833
Santa Fe Springs	2,739,760	5,251,493
Seal Beach	615,634	810,804
Torrance	106,182	232,781
Miscellaneous	192,097	250,395
Total (all fields)	34,483,590	52,339,718

DISTRIBUTION

(Gallons)

Stocks beginning of month	3,105,219	
Production during month	52,339,718	
Delivered to refineries		50,655,115
Delivered to jobbers, brokers or blenders		1,732,876
Blended at plants for production of motor fuel		6,761
Losses		62,449
Stocks end of month		2,986,736
Total	55,444,937	55,444,937

Liquefied petroleum gas production 1,433,508 gals. = 34,131 bbls.
Motor fuel produced 8,711 gals. = 208 bbls.

Last Stripping Plant Injunction Expires in Panhandle

AUSTIN, Tex., Mar. 2.—Attorney General William McCraw said Saturday that March 1 marked the expiration of the final injunction permitting stripping plants to skim natural gas of its gasoline content and dissipate residue gas. The last two injunctions vacated were held by the Shamrock Oil & Gas Co., operating in Moore County, and Huber Corp., operating in Hutchinson County. Other injunctions expired during the last several weeks.

Free from legal restraints, waste prohibitions of the gas conservation law, enacted by the legislature in January, 1935, automatically went back into full force.

Although the gas wastage by strippers has ended, the legal assault on the proration feature remains. Suits attacking it have been submitted to a three-judge federal court, as have actions instituted by plants forbidden use of sweet gas in the manufacture of carbon black. These cases are headed toward the U. S. Supreme Court, both sides having announced they will appeal from an adverse decision.

Left to right: J. M. Kindle, superintendent of the Trinidad, Tex., gasoline plant, and J. R. Jarvis, superintendent of gasoline plants for Lone Star Gas Company, Dallas, Tex.

Major pipe line companies contesting the constitutionality of the gas proration features include Consolidated Gas Utilities Corp. of Wheeler County and Texoma Natural Gas Co. of Potter County.

The new gas law became effective in the sweet gas producing area on August 1, 1935, and in the sour gas area on October 1, 1935. It was enacted after courts had stricken down other conservation statutes, including the common purchaser and the market demand laws.

Refinery Work

Pure to Enlarge Capacity of Its Smiths Bluff Refinery

HOUSTON, Tex., Mar. 2.—Announcement of an expenditure of from $1,000,000 to $1,500,000 by Pure Oil Co. to be spent in approximately doubling the capacity of its Smiths Bluff, Tex., refinery, brings the total amount to be spent by that company in the next few months, in remodeling and enlarging its refining facilities, to over $2,000,000. The capacity of the Smiths Bluff plant will be increased from 30,000 bbls. to 50,000 bbls., the contract for the new installations being awarded to the Lummus Co. of New York.

Pure has also awarded contracts for remodeling and replacing obsolete and worn-out equipment in its Toledo, Ohio, and Cabin Creek, W. Va., refineries as part of its general modernizing program. A $750,000 program of expansion at the Toledo plant includes construction of a combination topping, cracking and reforming unit under a process designed especially to operate on the Michigan crude now coming by pipe line from the Mount Pleasant district. The capacity of the refinery will be increased from 12,000 bbls. to 20,000 bbls. while the cracking capacity will be increased by about 5,500 bbls. The new combination and reforming unit will have four steam selective cracking, consisting of viscosity breaking, light cycle, heavy cycle and reforming. The new equipment will allow a greater percentage of gasoline to be recovered per barrel of crude input. Contracts for the work have been awarded to the Lummus Co., actual construction being expected to begin within a week and to be completed by the latter part of June.

Contracts for the construction and installation of new equipment at the Cabin Creek plant have been awarded to Alco Products, Inc. A 2,000-bbl. atmospheric crude distillation unit to operate on Pennsylvania grade crude is to be installed and a second still will be a combination topping, cracking and reforming unit. The combination unit follows the design of the Gyro process and will replace existing Gyro cracking facilities that have been in operation for the past several years. The new unit will have new stabilization equipment and will include Gray vapor phase treating towers.

Barnsdall Will Replace Stills With Combination Unit

Barnsdall Refining Corp. is receiving quotations and has practically completed plans for the erection of a 6,000-bbl. combination cracking and topping unit to be built at its Barnsdall, Okla., refinery to replace old equipment. Although details of the new work are not all worked out, the decision to make the replacement has been made and actual construction is expected to start within another month. Major equipment items have been practically decided upon.

New Michigan Refinery

CHICAGO, Mar. 2.—The Producers Refining Co., Inc., of West Branch, Mich., of which Carl J. Westlund is president and E. L. Dalton, vice president and treasurer, announce it has placed a contract with the Roy J. Miller Petroleum Engineering Co., of Chicago, for a $250,000 complete refinery to be located at West Branch, Mich.

Natural Gas

Natural Gas Regulation Bill Is Unlikely at This Session

WASHINGTON, D. C., Mar. 2.—There is still a possibility there may not be any legislation introduced at this session to regulate the natural gas industry. Representative Clarence Lea, Democrat, of California, who is preparing such a measure, has not definitely decided. The next week or ten days are expected to see him make the decision.

Although he has the regulatory bill in almost the form in which he wants it, it will not be offered to the house unless there is a good chance of its being passed without disrupting legislative activities unduly or delaying adjournment of congress. If it is apparent the bill will not be acted upon favorably at this session, he has said he is willing to have it lie over until the next session.

It is probable the main provisions will be enabling legislation approving the formulation of interstate gas conservation compacts, and regulations governing the wholesale gate rates of natural gas transported in interstate commerce.

New Engines at Stinnett

FORT WORTH, Tex., Mar. 2.—Three additional units to its gas pumping plant near Stinnett, Tex., are being constructed by Texhoma Natural Gas Co. which transports natural gas from the Panhandle through its line to Chicago and Middle West cities.

May Raise U. S. Gasoline Tax

WASHINGTON, D. C., Mar. 2.—Possibility of congressional consideration of the bill to limit imports and raise import duties and taxes on petroleum and petroleum products is approximately nil, Representative Disney, Democrat of Oklahoma, said. The Ways and Means Committee is not desirous of opening a tariff fight at this session before election.

The new tax bill has raised the possibility that the gasoline tax will be raised instead of lowered or abolished.

To Build Power Plant

Plans are being developed by the Phillips Petroleum Co. to build an electric generating plant to be located near Jal, in Lea County, New Mexico. The proposed unit will house two 150 horsepower gas engines driving generators which will supply electricity for pumping local wells.

Pipe Line Activity

New Pipe Lines into Rodessa Increase Legal Outlets

FORT WORTH, Tex., Mar. 2.—New pipe line construction is expected to take care of all legal crude production in the Rodessa field. The Texas Co. is to build 18 miles of 6-inch line to tie into its main East Texas line. Arkansas Pipe Line Co., subsidiary of Cities Service, is to lay a 6-inch line to its Shreveport, La., refinery, and Atlantic Pipe Line Co., which has a 30,000-bbl. daily capacity 10-inch welded line out of East Texas to its terminals on the Gulf Coast at Atreco, is surveying 60 miles for a welded 8-inch line from Rodessa to its tank farm and pump station about 4 miles southwest of Longview in Gregg County. This will give Rodessa another Gulf Coast outlet via the East Texas field.

Lines previously announced are those of Magnolia Petroleum Co., subsidiary of Socony-Vacuum, to extend to its Louisiana-Texas main line at Caddo, La., and East Texas Refining Co.'s 8-inch line to its refinery at Longview, Tex. These five lines will have a capacity of about 75,000 bbls. daily, which can be increased about 25,000 bbls. daily by building of additional pumping stations.

Pipe lines already serving the Rodessa field are those of Standard Oil of Louisiana, subsidiary of New Jersey, and Gulf Refining Co. of Louisiana. The former has capacity of about 35,000 bbls. daily, but according to unofficial reports, the Louisiana company is buying only 15,000 bbls. of Rodessa oil, the remaining capacity being taken up with common carrier shipments by Atlantic Refining, Cities Service and others. Gulf is said to be taking about 11,000 bbls. daily.

Plan Enlarging Plant Capacity to Care for New Oil Supply

FORT WORTH, Tex., Mar. 2.—East Texas Refining Co., with 10,000-bbl. refinery at Longview, is preparing to double the capacity of the plant to accommodate oil from the East Texas field and oil from the Rodessa field which is to be piped through the 8-inch welded pipe line the company is laying from Rodessa, about 55 miles east, to the refinery. The line is to be completed about the latter part of March with the proposed plant construction to be completed in about 30 days. Crews are now welding at three places along the 8-inch line, which has its eastern terminus on the Pelican Gasoline Co.'s Sexton lease in the Rodessa field. One 55,000-bbl. tank has been erected on that lease, with others to be erected later. The line, it is said, will connect also with the American Liberty Pipe Line Co.'s 8-inch line now being laid from the Conroe field in Montgomery County to connect with the Liberty Pipe Line Co.'s southern terminus at Rusk Station in Cherokee County. The East Texas Refining line and American Liberty line connection will give the Rodessa field a direct outlet to the Houston terminal.

Replacing section after blowout on gas line near Louisburg, Kans.
(Photos courtesy Kansas City Star)

Gas Line Blowout Blamed on Exceptional Weather

An early morning blast in the 22-inch gas line of the Panhandle Eastern Pipe Line Co., 7½ miles east of Louisburg, Kans., awoke the countryside for a distance of 12 miles and tore a hole in the earth large enough to bury a bungalow. No one was injured.

Company officials attributed the break to sudden weather changes. The explosion uprooted a large section of the line and permitted gas, backed by a pressure of 415 pounds, to gush forth with a deafening roar. The noise continued for more than an hour, until repair crews blocked off the gas gates at the Freeman, Mo., and Missouri-Kansas line stations. Pipe line service was uninterrupted due to reserve pressure. Repair crews from Olathe, Kans., and Boonville, Mo., were at work within a few hours.

Effect of the blowout on natural gas pipe line at Louisburg, Kans.

Saxet Field Line

FORT WORTH, Tex., Mar. 2.—Texas Pipe Line Co. is laying an additional 8-inch oil line from the Saxet field in Nueces County to the Texas Co. terminal at Corpus Christi, a distance of about 8 miles. The other line in operation is of 6-inch.

Gulf Survey to Talco

MOUNT PLEASANT, Tex., Mar. 2.—Gulf Refining Co. has begun surveying for a pipe line from Talco to its pumping station at Saltillo.

Stanolind Improvements

Improvements are being made in the main line of the Stanolind Pipe Line Co., serving the Wood River, Ill., refinery, between Freeman and Carrollton, Mo., to increase capacity of the system. About 25 miles of 12-inch line is being laid in two loops between the two towns. The new lines will replace an 8-inch line which will be taken up.

Cash Payments Main Problem in Exports to Italy

NEW YORK, Mar. 2.—The new neutrality act apparently leaves the position of oil exporters in this country just where it was. In line with the president's suggestion the major companies will continue to make shipments to Italian connections on a peace-time basis. There is nothing to prevent other companies within the new act restrictions on extension of credit from accepting additional business available from the government or private sources in Italy.

Although there have been inquiries in this market from Italian sources so far as known there has been no important spot business placed in this country since the first of the year. It is said Italy has not been purchasing new supplies from any country, depending on regular shipments and storage accumulated in 1935. In export circles here it is said Italy's most important problem centers on the matter of cash payments required by sellers.

Minimum of Sixty Wells May Follow Oklahoma City Vote

By DAL DALRYMPLE

If Oklahoma City voters approve extension of the drilling zone north of the Capitol in the special oil election March 24, a minimum of 60 new wells will be started in the area within two months following the election, oil men familiar with the situation estimate. They predict a drilling boom for the extension area that will be reminiscent of the early days in the Oklahoma City field further south. There is little doubt the city voters will favor extension of the drilling limits.

Nearly 100 new petitions, seeking a vote on extension of the oil drilling zone to virtually the entire northeast section of Oklahoma City, were filed Saturday, the deadline imposed by the city council. The only areas remaining outside the requested drilling zones after the new petitions were filed were Lincoln Terrace, the State University Hospital grounds and eight blocks bordering on each side of McMeacham park. The city council was to decide this week if the new drilling requests shall be placed on the March 24 election ballot. The petition of the State Board of Affairs to extend the drilling zone to all state-owned land in the Capitol vicinity except that occupied by the Historical Society Building also was to be acted upon by the city council.

The question of extending the drilling zone to take in the area north of the capitol and governor's mansion already had been scheduled for the election. This includes the area north of Twenty-third street, from the present zone line on the east to the Santa Fe tracks on the west, and north to the city limits.

It is a far cry from this era of drilling petitions and extension zones to the day when Joseph I. Cromwell, Wirt Franklin and associates were drilling wells out there north of the city limits and getting dry holes.

The first deep well to be drilled in the north area—if 4,000-foot wells are counted as shallow tests—was Cromwell Oil & Gas Co. No. 1 Gardner, SW NE NE section 15-12-3w, about three-fourths of a mile north of the present city limits. It was completed in May, 1929, and was dry and abandoned at 7,176 feet, total depth, in shale. Simpson Dolomite was topped at 6,821 feet; sand at 6,938 feet, with oil showing through water; another showing of black oil at 6,968 feet, and it was a hole full of water at 7,070 feet.

Cromwell Oil & Gas Co. No. 1 Densford, SW NE SE section 10-12-3w, was perhaps the first well to show oil in commercial quantities in the Oklahoma City area. Completed in September, 1925, it had sand at 4,378 feet, total depth 4,389 feet, and pumped 30 bbls. of oil a day. Another small producer was Cromwell Oil & Gas Co. No. 1 Woodward, NE SW SE section 10-12-3w, completed in February, 1927. It had sand at 4,383-89 feet, with water showing; plugged back to 4,387 feet, and produced 40 bbls. of oil a day on the pump. The fourth of those early wells, Cromwell-Franklin No. 1 Thompson, SW SW NE section 15-12-3w, was dry and abandoned at 4,575 feet, total depth, although it had a showing of oil in cores at 4,127-35 feet. It was completed May 21, 1930. Another failure was the Cromwell-Franklin No. 1 Lincoln Park, SW corner 12-12-3w, which had a showing of oil at 4,115-35 feet, but was dry and abandoned in July, 1930, at 4,535 feet, total depth.

The fault line that runs from southeast to northwest along the east side of the Oklahoma City field had not been discovered in those early days of pioneering by Cromwell and Franklin. Had they known the approximate location of the fault, they could have moved location of the deep test a short distance south and west and perhaps would have discovered the big pay in the Capitol extension area at that time.

Today, that area north of the city limits, as well as the part of the city within the proposed extension zone, seems due for an intensive drilling campaign.

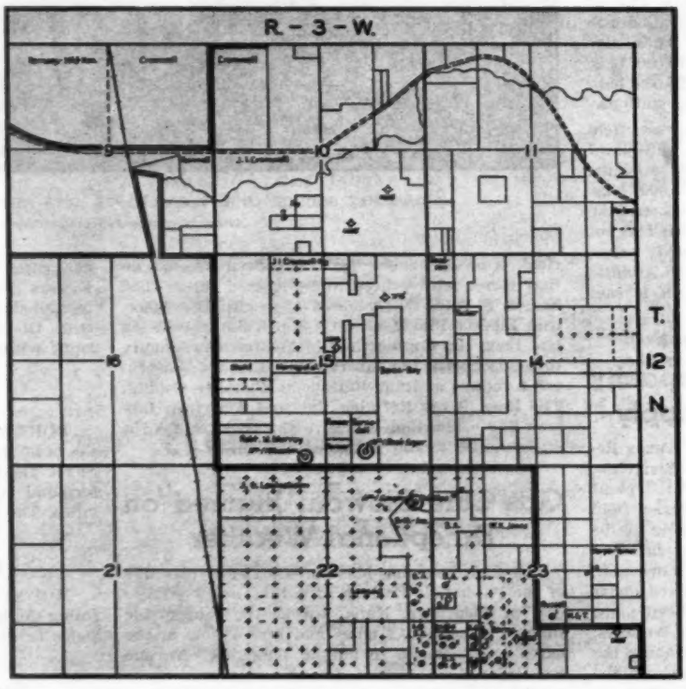
Already, two tests have started just north of the city limits, in section 15-12-3w, Barnsdall Oil Co. was the first to start operations in the present drilling area. Its No. 1 Banks-Geyer, SE SW SE section 15, is just north of the boundary line, so it was not necessary to delay operations pending the March 24 election. It spudded last week. An official of the Barnsdall company said the test was certain to make a producer, based on the showing in the nearby Phillips Petroleum Co. and Black Gold Petroleum Corp. No. 1 Sawyer, SE NE NE section 22-12-3w. No. 1 Sawyer, outpost test in the extension area, was bottomed at 6,407 feet in saturated sand, but was shut down. An impending row between the oil companies and the city over its location and title to the property on which it has been drilled caused the shutdown. The city authorities claim that a survey showed that the test, regarded as a key location, was drilled two feet outside the approved drilling zone, and in the buffer zone in part of McNabb Park. The oil companies maintained that the No. 1 Sawyer location was on property held by the estate of the late D. F. Sawyer, but the city's survey showed it was on one of the few spots in the locality not owned by the Sawyer estate.

A second test north of the city limits in the capitol area also got under way the past week at Robert M. Murray's No. 1 Wheeler, SW SE SE SW section 15-12-3w, the southeast corner of Block 8, in Irvington Addition. It is just north of the Woodlawn golf course and less than one-half mile west of the new Barnsdall test.

British-American Oil Producing Co. No. 5 Piersol, NW SW SW section 23-12-3w, was due to complete this week. It is bottomed at 6,346 feet, and operators were to start drilling plugs over the week end. Same operators No. 1 Hampton, NW NW SW section 23-12-3w, also is a near completion and if it makes a producer it will extend production one-fourth mile north; total depth is 6,390 feet. Several other tests were drilling at routine depths in the capitol area.

British-American Oil Producing Co. No. 4 Piersol, NE SE SE section 22-12-3w, on the north line of production, exceeded its potential on a full 24-hour production test the past week. It produced 25,462 bbls. of oil in the 24 hours it was open. Previously, it had established a potential of 22,696.56 bbls., based on the last four hours of a six-hour flow.

Intensive town lot drilling, with each well on a small parcel of land, will mean a large expenditure of capital, which may never be recovered. Royalty owners may find their returns disappointing.



New Oklahoma oil history is being written in this Capitol extension zone of the Oklahoma City field, with two tests being started north of the Oklahoma City limits in section 15-12-3w

(Mid-Continent Map Co., Tulsa, Okla.)

Cost Questionnaire on Development Issued

NEW YORK, Mar. 3.—In view of the different methods employed by oil companies in treating intangible development costs in their annual reports, the committee on the stock list of the New York Stock Exchange has sent a letter to about 40 oil companies having securities listed on the New York Stock Exchange asking that the companies "indicate in an appropriate place directly in relation to the income account" whether intangible drilling expenses are charged to income account or capitalized and then amortized over a period of years. The letter follows:

"In recent years a number of oil companies have changed their accounting methods from the practice of charging intangible drilling costs to expense to that of capitalizing and thereafter amortizing such costs. Comparison between the earnings of companies become difficult unless this situation is understood, and we ask that in its forthcoming annual report for 1935 your company indicate in an appropriate place directly in relation to the income account.

"First—Whether your company now pursues the method of charging intangible drilling costs to expense or of capitalizing them.

"Second—In case it is your practice to capitalize such costs, the date when such practice began and the basis of amortization employed.

"Third—Whether, in case of change from the expense method to the capitalization method, you have capitalized the intangible drilling costs pertaining to the wells producing at that time and incurred prior thereto.

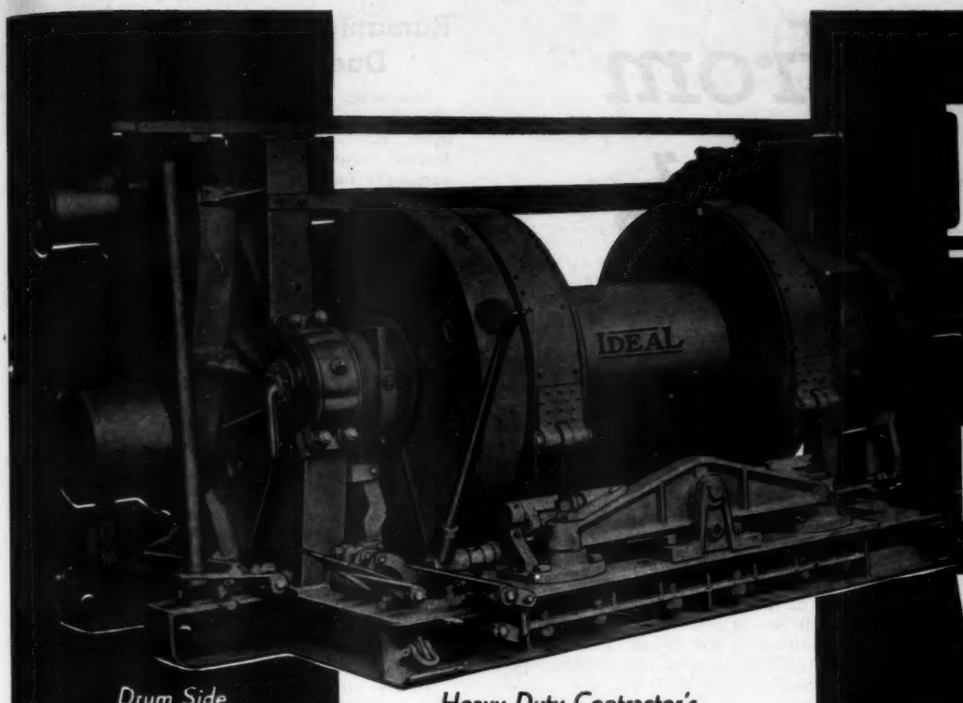
"We ask that in subsequent annual reports the method followed be indicated in the phrasing of the income account or otherwise, and that, if the method employed should at any time be changed, a clear statement of the nature of the change be given."

Prospect in Lincoln County

Fred McDuff may have opened a pool in Lincoln County, Oklahoma, 4 miles north of the Davenport pool and 3 miles west of north Stroud pool.

Alcohol Blend Inquiry

WASHINGTON, D. C., Mar. 2.—Congressman Clarence F. Lea, Democrat of California, has introduced a bill to set up a fuel research commission, for studying and experimenting with the possibilities of blending gasoline and alcohol.



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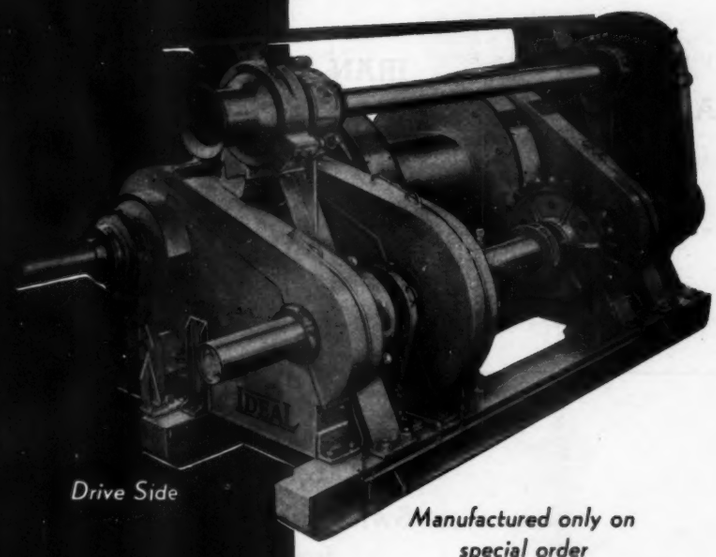
DRAW WORKS



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Materially reduces noise and increases the life of the sprockets and chains.

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Drum is 26" diameter and 45¾" long. It is a one-piece steel casting, either plain, or grooved for 1", 1⅛", or 1¼" line, as specified.

THE NATIONAL SUPPLY COMPANY

National

Oil News from Foreign Lands

Survey Work in Colombia on Barco Concession

COLOMBIA

A large amount of survey work is being carried on by the Colombian Petroleum Co. in preparation for the preliminary selection of the areas to be retained by the company on its Barco concession in Colombia. According to a report of the board of directors of the Carib Syndicate, Ltd., which owns 21 per cent of the Colombian company's stock, under the terms of the latter's agreement with the Colombian government it must select the first 50,000 hectares (123,550 acres) during 1936 and within five years following the definite area of the zones of exploitation, not to exceed 200,000 hectares (494,200 acres) is to be chosen. All excess territory with the boundaries of the concession is to be returned to the Colombian government.

The Colombian company has been engaged for about three years in carrying on exploitation work on the Barco concession. The principal ownership of the company rests with the South American subsidiary of the Gulf Oil Corp. and its engineers are in charge of exploration work. The annual report of the Carib Syndicate, Ltd., released last week included the following summary of the work on the Barco concession in the Petrolea area:

"The systems of field roads and railroads were improved and extended during the year, which will greatly facilitate future drilling operations. A system of radio telephone was installed between the several camps of the company and the headquarters in Cucuta, Colombia, enabling the local management to keep more closely in touch with current operations.

"Five additional wells were completed during the year in the Petrolea area, making a total of 10 wells drilled in this field. Well No. 6 was completed at a depth of 1,041 feet with an estimated initial potential production of 1,050 bbls. per day from the first oil zone. Well No. 6A, an offset well designed to test formations below the productive level in Well No. 6, failed to obtain production from the lower horizons and was completed as a producer from the first oil zone. Well No. 7 was successfully completed at a depth of 1,467 feet for an initial production of 1,150 bbls. per day.

"Well No. 8, located some distance to the west of the seepage area, was completed at a depth of 558 feet for an initial production of 1,080 bbls. per day from the first oil zone. The successful completion of this well has extended the productive limits of the Petrolea field a considerable distance to the west. Preparations are under way to drill an offset well 100 feet north of well No. 8, to be known as No. 8A, for the purpose of testing the formations below the first oil zone in this locality.

"Well No. 3, located about 4½ miles from the most southerly producing well in the Petrolea field on what is known as the south dome, although listed as a failure, encountered large quantities of oil and gas. In attempting to bring the well into production the occurrence of water in close proximity to the oil sands was discovered. Efforts to locate and shut off the water proved unsuccessful and the well was finally plugged and abandoned. The results obtained in this well have definitely proved the existence of oil in the south dome of the Petrolea area and further exploratory work will be undertaken in this locality.

"The location for Well No. 11, approximately 1½ miles south of well No. 3, has been prepared. The railroad is being extended to the site preparatory to moving in equipment and drilling is expected to commence shortly after the first of the year. Based on present geological data well No. 11 should encounter the prospective oil horizon some 400 feet higher structurally than in well No. 3 and is, therefore, regarded as a more favorable location.

"At the close of the year well No. 9 was in progress of being drilled but had not reached conclusive depths. As this report goes to press, however, the company reports this well completed at a depth of 950 feet for an initial production rate of 2,800 bbls. of clean oil per day, over a five-hour test. This well is located approximately 1 mile to the north of the former productive limits and indicates an important extension of the Petrolea field in that direction. The location has been selected for well No. 10 about 1 mile north of well No. 9. The railroad is now being extended to the site and it is planned to commence drilling operations upon completion of well No. 9."

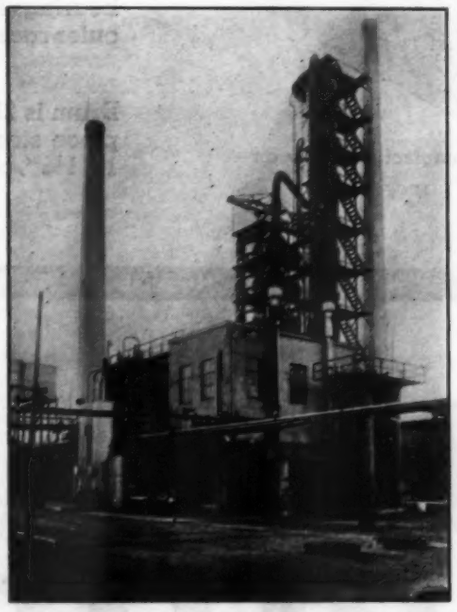
In the northern part of the concession the Oro No. 2 has been drilled to approximately 5,000 feet. A location has been made for a second test.

Production in Venezuela for Four-Week Period

VENEZUELA

Production of the Shell subsidiaries in Venezuela, Caribbean Petroleum Co. at Mene Grande field, Venezuelan Concessions, Ltd., at La Rosa, Lagunillas, Conception and La Paz, and Colon Oil Corp. at Colon, for the four weeks ending February 15 and January 18 was as follows (barrels):

	Feb. 15	Jan. 18
Caribbean Petroleum Co.,		
Mene Grande	927,300	1,280,700
Venezuelan Oil Concessions, Ltd.,		
La Rosa	796,300	818,200
Lagunillas	2,215,400	1,927,500
Concepcion	95,800	90,600
La Paz	13,100	11,500
Colon Oil Corp., Colon	409,200	414,600



Topping plant at the Tsurumi, Yokohoma, Japan, refinery, the Ogura Oil Co., Ltd. The refinery has a capacity of 9,000 bbls. daily

Rumanian Output Decline Is Due to Three Factors

RUMANIA

According to a report on Rumania oil operations for 1935 at the annual A.I.M.E. meeting three factors contributed to the decline in production compared to 1934. These three causes were: (1) Lack of free exchange for foreign currency; (2) Abnormally high taxes and (3) Lack of adequate reserves to replace the declining output of older fields.

The 1935 drilling totaled 1,025,075 feet, a decline from the 1,291,208 foot total for 1934. The new Bucsani field produced 4,894,000 bbls. of oil in 1935, although the extent of the field is undefined except on the west side. The field was discovered the latter part of 1934. The reported crude oil production of Rumania for the past five years was as follows (barrels):

Year	Total	Daily average	Per cent of world
1931	49,963,545	136,900	3.62
1932	54,790,000	149,700	4.13
1933	55,127,000	151,033	3.82
1934	62,909,000	172,353	4.14
1935	62,486,000	171,194	3.80

Oil Production in Iran Showed Decrease in January

IRAN

Crude oil production in Iran in January totaled 661,000 tons. This was a decrease compared to the 688,000-ton total in December, 1935, but more than the 630,102 tons for January, 1935.

In a review of the producing operations in the principal areas of Iran at the annual meeting of the American Institute of Mining and Metallurgical Engineers it was explained that the flowing lives of wells in the Masjid-I-Sulaiman field have been extended by acid treatment and by reducing the back pressure. The optimum producing conditions for individual wells have been determined as a result of an experimental study of the amount of available energy in the reservoir and of energy losses in flowing wells. The Anglo-Iranian company is continuing the policy of returning surplus products from the crude to the producing horizons. The viscosity of the residue returned to the wells is reduced before returning by contacting with gas at an absorption pressure of 35 pounds. The pressure of the gas dome is falling at the rate of 1 pound per annum.

The present limits of the oil bearing structure of Haft Kel field cover an area of 50 square miles. Possible extensions are being tested according to the A.I.M.E. report. The retention of gasoline in the crude is being aided by means of multistage separation and stabilization, the flowing pressures of 500 pounds per square inch making this an economic method.

Switzerland Authorizes Plan for Oil Prospecting

SWITZERLAND

Swiss capital is financing a syndicate known as the S. A. des Hydrocarbures which has obtained authorization to carry on surface prospecting for petroleum in Switzerland according to International Petroleum Trade. Two corporations known as "Neuchavaud" (Neuchatel-Vaud) and "Fopega" (Forages, Petroles at Gaz—drilling petroleum and gas) have been established to carry out the actual prospecting. It is said that the larger oil companies are not connected with the enterprise in any way. One of the corporations has indicated that it will start drilling in the near future. The founders of these corporations according to the report are aware of the skepticism prevailing in Switzerland and other places regarding the prospects of finding oil bearing structures in that country. It is claimed however that certain geological reports indicate the presence of oil at depths of from 2,000 to 6,500 feet. Rotary equipment will be used in any actual drilling.

Encore!
THE PERFORMANCE of Cooper-Bessemer 1000-H. P. compressor units has been so satisfactory on Northern Natural Gas lines that Cooper-Bessemers were again chosen, in larger size, for this new Mullinville station.
INTERIOR of Northern Natural Gas Company's new compressor station at Mullinville, Kansas, showing three Cooper-Bessemer Type-24 gas-engine-driven compressors, each rated 1350 H. P.
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A Happy Medium

Accumulated experience has crystallized the idea of "a happy medium" into proverbial wisdom but, like so many other truths that have become commonplace, it is generally disregarded in wild rushes to and from one extreme or another. It is especially so in estimating the future, and particularly in the oil business. One element yells to "slam on the brakes!" and another shouts to "give 'er the gas!"

If, for example, we look at the rapidly mounting gasoline stocks, the situation is far from satisfactory. They will probably reach 75,000,000 barrels by March 31 instead of the 66,500,000 barrels recommended by the American Petroleum Institute Committee.

Refiners have been exceeding the speed limit in crude runs for eight weeks. The A.P.I. Committee estimated that 2,555,000 barrels daily during the first quarter would allow for an expected 8.1 increase in motor fuel demand. But the refiners actually ran an average of 2,767,000 barrels daily, or 8.3 per cent more than the allowance for an 8.1 gain in consumption.

It does not make sense, if that were all there is to it. But there is another side. While impassable roads and zero temperatures were cutting the consumption of motor fuel that same exceptional weather was creating an unprecedented demand for fuel oils.

Consider the position of the refiner. Expectation of the crude price increase that materialized early in January, was shared by buyers as well as sellers and just before and immediately after the crude price advance orders were depleting gasoline stocks at the refineries and terminals and filling the tanks at bulk stations and filling stations. The cold snap almost immediately immobilized much of that motor fuel and the refiners were not able to sell to jobbers already stocked up at lower prices.

The unexpected record demand for burning oil and heavy fuels compelled refiners to run more crude to obtain those oils, though adding to gasoline storage.

The question is whether the industry is better or worse off. The answer may rest in a comparison of the stocks of crude, motor fuel and fuel oil at this season and a year ago. Stocks of crude were 28,000,000 barrels less on February 15. Stocks of motor fuel were 4,500,000 barrels more while stocks of fuel oil were 4,500,000 barrels less. Total stocks were thus 28,000,000 barrels less.

This does not seem alarming, viewed as a whole, although the motor fuel situation does call for correction. The excess supply of gasoline on March 31 will have to be liquidated by restriction of crude runs during the remaining weeks of March and April.

For the week ended February 1, 1936 refiners ran crude oil at the rate of 75.7 percent of their capacity, says the Chicago Journal of Commerce

That was too much for some refiners They made more gasoline than they could sell —gasoline stocks increased 2 million barrels

Dubbs refiners during the same week ran their Dubbs units for all they were worth and even then they couldn't make enough Dubbscracked gasoline to go round

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

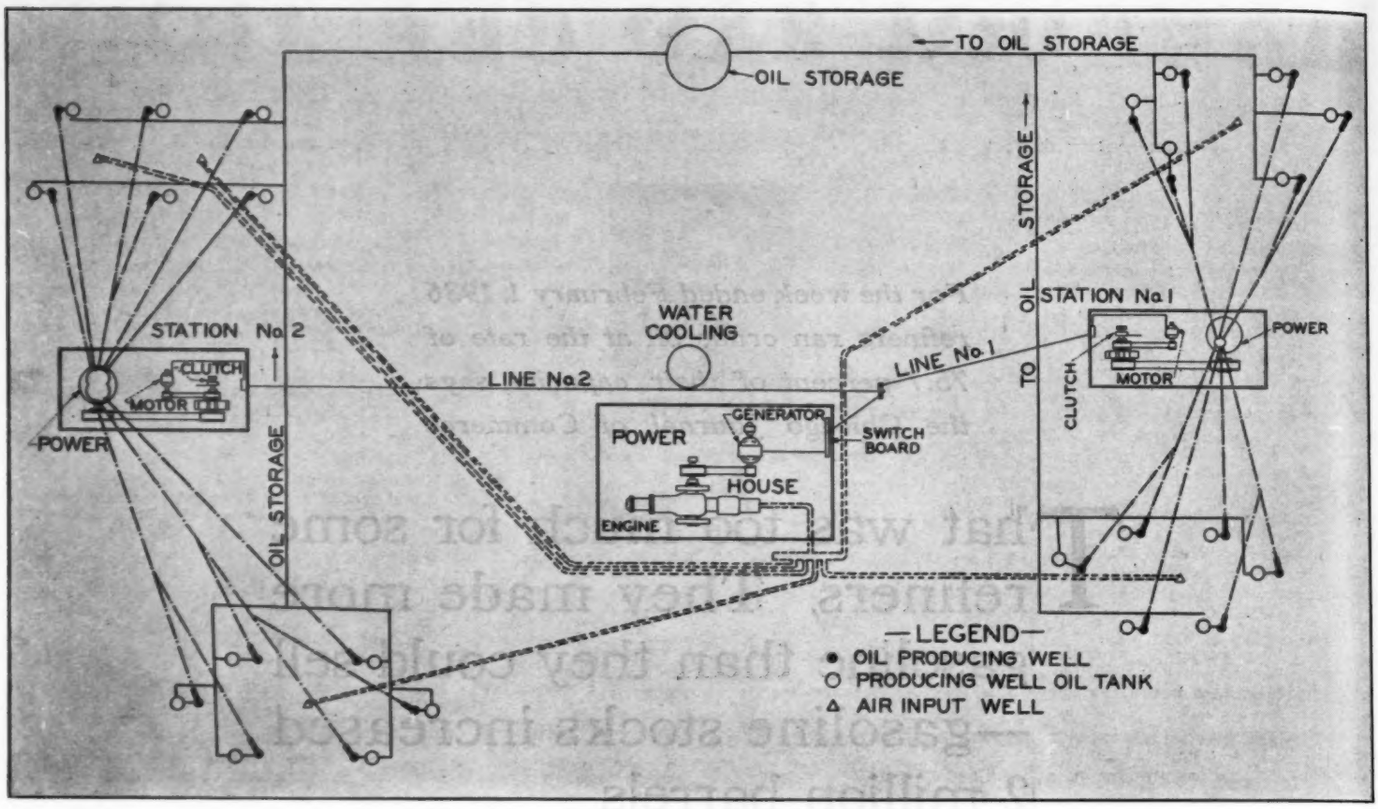

Fig. 2—Diagram showing equipment to be used in a new repressuring project under development in western Pennsylvania

Engineering Details Being Developed for Major Air and Gas Lift Program

By R. C. CONINE

Oil producers of Venango, Crawford and Warren Counties in Pennsylvania will spend in excess of $3,000,000 in 1936 for secondary recovery installations, an engineering survey of developments planned or under way reveals. Nearly all of the modernization programs involve various systems for air or gas and air repressuring, the exceptions being more extensive experiments with waterflooding in the so-called broken sand fields. In the Titusville district there are three waterflood developments under way. Results will not be available for several months on this work. The "delayed" method is being used; that is, the vent or oil-producing wells will not be drilled until the properties have been under flood for six months or so. In the Glade district (Warren) waterflooding is considered to be beyond the experimental stage as a number of operators have brought in exceptional wells on properties flooded. In the Franklin district engineers have been studying sand characteristics to determine the type of flood adaptable to the production of the heavy crude found there.

Nineteen air or gas and air repressuring systems will be added to the total for these counties as soon as weather conditions permit work to proceed. In two instances, at least, heavy accumulation of ice and snow has cut off supply of materials, and the engines and compressors, already on cement foundations, are protected from the elements by nothing more than canvass coverings. In addition to these plants upon which construction work and hauling has already started, there are at least a half dozen others in the prospective stage.

Numerous outside interests have been attracted to this area by the recent modernization activity and the reports on increasing production. It is difficult to say at this time what these newcomers plan to do, although there is already apparent a definite atmosphere of promotional activity. Capital is certainly needed in these old stripper well fields, but investors should not assume that secondary recovery methods are universally applicable or profitable. Some of the largest and oldest operators in the Pennsylvania grade region have blundered seriously in the selection of acreage to be developed in Venango, Warren and Crawford Counties. A majority of the old producing properties, however, offer a fair return on investment. In many sections there has been little or no drilling since pioneer days. Here initial production was relatively small in shallow sands and could not survive the gusher periods. Other properties ceased activity prematurely because of accidental flooding and many now be revived by dewatering. Still other properties have never been exploited efficiently. These offer the alert petroleum engineer a generous reward.

There is a definite trend toward electricity for power on leases being repressured. Paradoxially, this move foreshadows increased purchases of gas engines and compressors. The explanation is simple. Use of electricity for pumping permits the building up of an excess gas supply. Additional gas engines and compressors increased the flexibility of the system and there is a resulting increase in oil and gas recovery. Such, at least, has been the case on the leases electrified.

The advantages of the electric system, as exemplified on the properties developed by Willis Fertig (Figure 1), are: Large saving in fuel, exceptional flexibility, elimination of gas distribution system, elimination of water requirement outside of generator plant, simplification of lubrication problems, greater ease of operation. In Figure 1, the Huidekoper farm is operated by Henry Suhr. The other farms are operated by Mr. Fertig. C. C. Hogg is general superintendent for these properties and has had charge of all installations. In his work as general manager of National Oil Co., largest producers in the Grand Valley-Enterprise basin, Mr. Hogg has been largely instrumental in bringing about the general movement toward secondary recovery methods in Forest, Crawford, Venango and Warren Counties.

The generator plant on the Fertig development houses an Ingersoll-Rand XVG designed to carry 300 pounds pressure or 600,000 feet of air per 24 hours. The high-pressure wells receive 400,000 feet a day, and the low-pressure wells 200,000 feet a day. The high-pressure wells are injected at night and the low-pressure wells during the day. When running low pressures the excess power (through the electric generator) is used to pump all wells. The wells pump off in from 1½ to 8 hours. All of the pumping powers are of the two eccentric

gear type, each handling from 5 to 20 wells of an average depth of 800 feet. There are two 5-horsepower electric motors, one 15-horsepower, and the balance are 10-horsepower motors. Two extra motors are carried for replacements. All are of the induction type.

This equipment supplements an old air injection plant which provided 250,000 feet of gas for repressuring per 24 hours at a pressure of 125 pounds. The Ingersoll-Rand 5½x10½ x12 belt-driven compressor, hooked to a 60-horsepower Cooper-Bessemer gas engine in this plant will continue operation. It is planned to add a similar plant using a Titusville engine.

The electrical installation brought about so large a saving in gas that back pressure on the wells built up excessively. To take care of this excess and to extend the repressuring development, a 10-horsepower electric powered gas booster plant was installed. The motor was belt connected to a 7x6 Worthington double-acting single-stage compressor. Suction is on the main system, relieving back pressure and injecting gas in a score of wells hitherto not included in the repressuring program. In Figure 1, the high-pressure gas lines, high-pressure air line, gas-gathering system and electric transmission lines are on the same right of way. Arrows mark the right of way completely equipped, and the broken lines indicate right of way where installations are now under way.

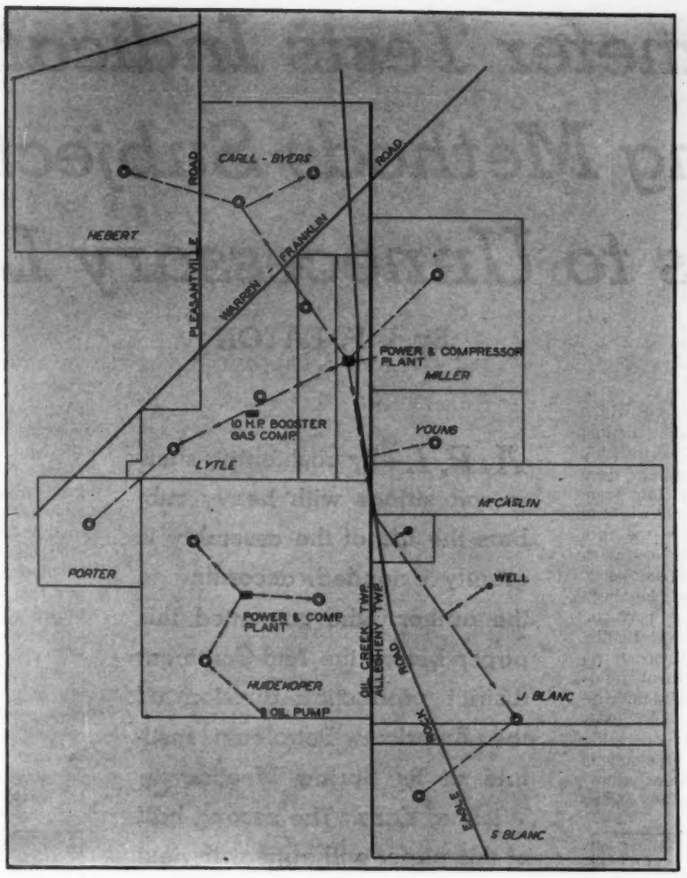

Fig. 1—Location of properties undergoing repressuring

The generator plant on the Suhr property houses an 85-horsepower Reid gas engine (convertible to full diesel) directly connected to 12½x6x 16 Ingersoll-Rand compressor cylinders. The plant handles over 300,000 feet a day at pressures up to 300 pounds. A 25 k.v.a. 440-volt alternating current generator driven by a flat belt from engine stub shaft furnishes electric current for operating three geared powers. The powers, each handling up to 18 wells, are driven by 10-horsepower motors, the proper speed ratio being obtained through a clutch and countershaft.

Both of these electrical installations have voltage control adapters or the carbon pile type. Regardless of the number of motors cut out the voltage remains the the same within 2 per cent of 440 volts. The units are also equipped with overload controls.

In Figure 2, is indicated the type of equipment composing the initial step in a secondary recovery development where the wells are to be pumped by electric motor driven powers. In the following will be outlined the materials and costs in an initial development:

Compressor unit, direct driven by gas or oil engine, generator and switchgear, $6,000. House and foundations, $2,750. Installation of five 10-horsepower motors to replace gas engines, including countershaft and foundations, and clearing right of way, setting up poles, stringing No. 6 wire, $6,000.

The generator would be 50 k.v.a., 480 volts (40 drop), three-phase, 60-cycle, 1,200 r.p.m., direct connected exciter, and would be driven by V belts.

The engine would have a capacity of about 85 horsepower, with the compressor throttled during the pumping period. The compressor capacity would be 315,000 feet per 24 hours at 300 pounds pressure, and 275,000 feet at 400 pounds pressure.

Electrical Controls

Switchgear would consist of a board with control for generator and exciter, and having a carbon pile type automatic voltage adjuster. There are also controls at the power station for the individual powers. On leases where there is excess gas to recycle, the load from the power is transferred to a small compressor. This keeps a constant load on the motor, but requires a very careful balance of load between the generator and the compressor.

Interior of power house showing belt driven two eccentric gear type band wheel, pumping power capable of handling from 5 to 20 wells (with adjustable idler type belt tightener), mounted on concrete foundations. This type of operation is being adopted

Remodeling Independent

The Independent Refiaing Co. of Billings, Mont., has signed a license agreement with Universal Oil Products Co. and has contracted with the Ralph M. Parsons Co. to remodel its refinery to operate the Dubbs cracking process. Despite 40 below zero weather and deep snows it is expected that Independent will be reforming its stored straightrun gasoline, the first step in the remodeling program, within two weeks.

Installation of the Dubbs process will remove the limitations that heretofore have restricted the company's cracking to just one stock; the gas oil from 21 gravity, black, high-sulfur Oregon Basin crude. Due to the high sulfur content of this crude, the cracked gasoline manufactured by the Independent in the past could not meet the Montana legal limit of .2 per cent sulfur thus it could not be sold as gasoline but was sold under the trade name, "Autofuel." Arrangements have been made for a supply of light crude from the Dry Creek field thus enabling the company to produce a high antiknock gasoline of satisfactory sulfur content and permitting the product to be sold as gasoline instead of "Autofuel."

Immediate work to be done by Parsons includes installation of a reaction chamber, a flash chamber and a fractionating tower, together with an absorber and stabilizer, and a vacuum distillation unit for the production of asphalt direct from the cracking unit or crude still. The pump and control house will be completely redesigned and reconstructed in order to centralize the control functions in a compact room. Eventually a heavy oil furnace is to be built to make possible full two-coil, selective Dubbs-cracking.

Present equipment of the refinery includes a crude still rated at 5,000 bbls. a day capacity, a gas oil cracking unit with a nominal capacity of 1,000 bbls. daily and a rerun unit consisting of a pipe still and fractionating column. There are also three vertical coking-vessels, 10x40 feet, and four 12 x 40 horizontal gas-and-oil fired coking stills. The crude still is to remain in use and eventually the vertical coking vessels are to be adapted to continuous coking by the Dubbs process. The remodeling and new construction work are expected to double the present capacity of the refinery.

Parsons in the past has completed two other construction jobs in Montana; building Dubbs cracking units in both the Big West Oil Co. of Montana plant at Kelvin, and the Home Oil & Refining Co. plant at Great Falls.

W. E. Rice of Great Falls, president of the Home Oil & Refining Co., also heads the Independent Refining Co. D. E. Hageman is vice president and general manager of the latter company.

Dr. Maynard M. Stephens has been appointed supervisor of the petroleum and natural gas engineering instruction offered as part of the extension services of the Pennsylvania State College. He succeeds Rex W. Woods, who resigned.

Dynamometer Tests Indicate Present Pumping Methods Subject Sucker Rods to Unnecessary Loads

By J. F. EATON
Jarecki Manufacturing Co.

A.P.I.—By cushioning sucker rod strings with heavy rubbers the life of the assembly is greatly extended, according to the author, who presented this paper before the Mid-Continent district production division of the American Petroleum Institute at its Spring Meeting in Wichita, Kans. The second half of this paper will appear in next week's issue of the Journal.

The maximum depth from which oil may be lifted by the sucker-rod pumping method is limited by the maximum allowable working stress in the sucker rods. In pumping very deep wells, or in producing large volumes of fluid from moderate depths, this maximum allowable working or fatigue stress may be reached before the rate of production of oil is sufficient to make operation of the well profitable, or even to pay lifting costs. Although the fatigue limit of sucker rods has been considerably increased, and remarkable performance attained by the application of special alloy rods to meet individual pumping conditions, it remains a fact that in many Mid-Continent fields sucker rods are operated above their maximum allowable fatigue limit. This condition must exist in order to produce enough oil to pay operating costs, and the resulting excessive rod breakage is to be expected. The method of establishing allowable for wells by taking potentials requires sucker rods to operate almost at the breaking point for long periods.

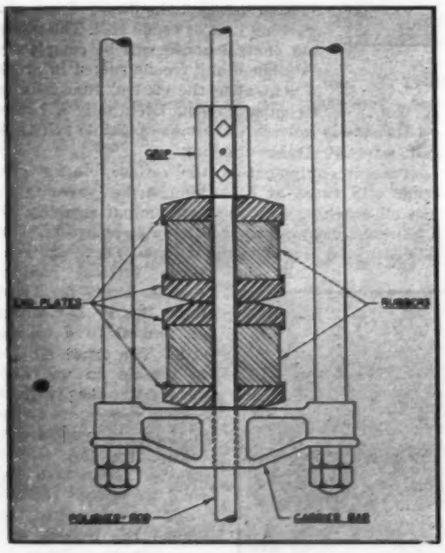

Fig. 1—Double unit rubber cushion shown in position on polish-rod

It is a well known fact that sucker-rod loads, and hence rod failures, can be reduced by reducing the pumping speed or by reducing the length of stroke, or both. Reduction in load will also be obtained if the pump-plunger diameter is reduced. However, reduction of speed, stroke, or plunger diameter also has the effect of reducing the production of the well.

Recently a series of dynamometer tests have been made on pumping wells having the sucker rods supported on rubber cushions, so that the rods were in reality "floating" on rubber. The rubber cushions were originally intended to merely cushion shock loads and to dampen vibrations, but further study revealed that they had an important effect on the motion imparted to the sucker rods by the walking beam, and that rod loads were reduced without loss of production. Assuming that the crank of the pumping unit rotates at constant angular velocity, the walking beam imparts approximate simple harmonic motion to the sucker rods, meaning constant acceleration and deceleration.

The following study of the effect of rubber cushions on sucker rod loads suggests that simple harmonic motion is not the proper motion for sucker rods if the maximum volume of fluid lifted per unit of rod load is to be obtained. With present pumping units used to actuate sucker rods, the polished-rod is forced to follow the motion of the walking beam. These tests will suggest that the polished-rod should be free to vary in velocity according to the load.

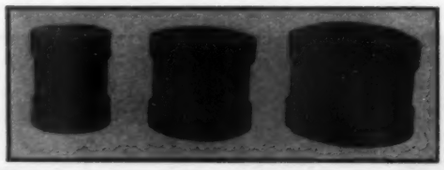

Fig. 2—Three sizes of rubber cushions

This study is intended to offer evidence that sucker rod loads could be reduced and performance increased without sacrificing production if the motion imparted to the polished-rod by the surface equipment were altered so that the polished-rod velocity might vary approximately inversely as the load. The rubber cushions used in these tests permit fulfillment of this condition in limited degree only, but serve to demonstrate the gains possible from further developments or improvements in this direction.

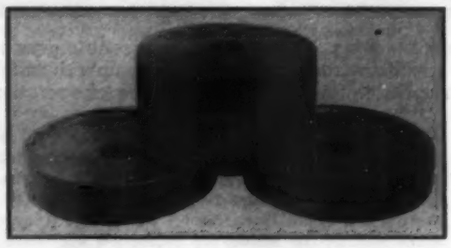

Fig. 3—Rubber and end plates for cushion unit on well pumping

It is realized that devices other than rubber cushions could have accomplished identical results, but this discussion will be limited to results obtained with this device only, since complete, accurate and specific data and analyses are available upon which useful conclusions may be based.

The sucker rod cushions used in the tests consist of a circular block of rubber between two recessed retaining plates, the assembly having a concentric hole through which the polished-rod is inserted. Figure 2 illustrates three sizes of rubber cushions. In operation, the device is set between the carrier-bar of the beam-hanger and the polished-rod grip or clamp, so the entire weight of the sucker rods is supported on the rubber. A typical installation is shown in Figure 4, and a double-unit installation in Figure 6. The double-unit installation consists of two single units as shown in Figure 1, placed one above the other.

Fig. 4—Installation of rubber cushion made in the Oklahoma City field

Since the rubber is prevented from expanding at the ends by the recesses in the end plates, the rubber expands or bulges under the compression load imposed by the well, as illustrated by Figures 4 and 5. Compression of the rubber allows the polished-rod to move relative to the carrier-bar, and it is necessary this motion be provided for. A carrier-bar which grips the polished-rod must not be used. Since the well load may vary between wide limits, a considerable variation in the amount of compression occurs during each pumping cycle. The total travel of the polished-rod through the carrier-bar will be between one-half inch and 1 inch when using a single unit as in Figure 4 and

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between 1 and 2 inches when using the double-unit type in Figure 6.

In order to install the cushions, it is first necessary to attach an extra polished-rod grip to the polishd-rod immediately over the stuffing-box. The clamp on the carrier-bar may then be removed, and the unit slipped over the top of the polished-rod. If a double-unit is to be used, another assembly of end-plates and rubbers is set on top of the first set. The clamp is then attached to the polished-rod so its new position is higher than the original position by the height of the rubber cushion unit or units. Thus, the spacing of the pump, or distance between traveling and standing valves, will not be altered. In order to obtain exactly the same pump spacing, allowance for compression of the rubbers may be made in setting the clamp. The auxiliary clamp supporting the rods on the stuffing-box may now be removed, and pumping resumed as usual.

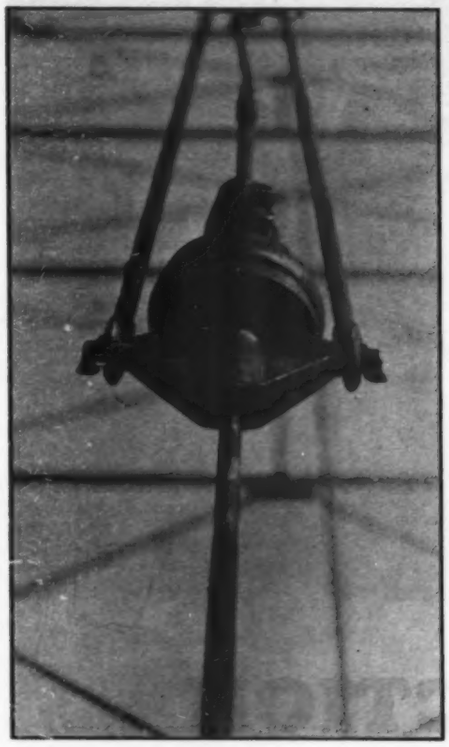


Fig. 5—Rubber cushion compressed on up-stroke at Oklahoma City field well

Before discussing the function of the rubber cushions, an explanation of the dynamometer test data is perhaps in order. Figure 11 may be taken as typical dynamometer cards. Although Figure 11 depicts two separate cards superimposed upon one another, the full line indicates one card and the dotted line another separate card. These cards were made with an electric dynamometer recording photographically the instantaneous well load at all points in the pumping cycle. The cards should be read clockwise, so that the upper line of each card, reading from left to right, represents the up-stroke, the left-hand end representing the start of the up-stroke and the right-hand end the top of the up-stroke. The lower line, reading from right to left, indicates the polished-rod load on the down-stroke, the right-hand end representing the load at the beginning of the down-stroke and the left-hand end the load at the finish of the down-stroke.

The vertical and horizontal axes of the card represent polished-rod load and position during the stroke, respectively.

The peak or maximum load usually occurs at a point approximately at the mid-point of the stroke, although at high pumping speeds the load reached immediately after the start of the up-stroke may be the maximum. This is due to the extra force necessary to overcome the inertia of the rods and fluid and to accelerate them upward. The acceleration or impulse factor increases with pumping speed, for example, increasing the static load due to deadweight of rods and fluid by 48 per cent at 25-54-inch strokes per minute.

The minimum load is usually reached at about the mid-point of the downstroke, at which point the rods are falling with maximum velocity.

The difference between the maximum and minimum loads is the range of variation or fluctuation of load, and may be called the "fatiguing load," since it is proportional to the range of stress variation in the sucker-rod material. Sucker rod breaks are always due to fatigue action, which is the repeated application of a stress to the material until the endurance limit is reached, and failure occurs. Reducing the magnitude of the fatiguing stress increases the number of times it may be applied before failure occurs, and thus sucker rod life will be increased if the load fluctuation is restricted to as narrow limits as possible.

The area of the dynamometer card, or space enclosed by it, represents work in foot-pounds and is convertible into polished-rod horsepower or power put into the sucker rods by the walking beam during the pumping cycle. Polished-rod horsepower represents the net energy applied to the sucker rods at the surface after all power losses in surface equipment have been eliminated, and may be calculated as follows:

$$\text{P.R.H.P.} = \frac{PA}{I} \times \frac{L}{12} \times \frac{N}{33{,}000}$$

Where: P.R.H.P. = Polished-rod horsepower.
P = Load per inch of card height, lbs.
A = Area of card, square inches.
I = Card length, inches.
L = Polished-rod stroke, inches.
N = Strokes per minute.

The abbreviation "M.E.P.R.L." in Figure 10 stands for "mean effective polished-rod load," and is the average height of the dynamometer card, obtained by dividing the card area by its height. It is equivalent to the mean effective cylinder pressure derived from engine indicator cards.

Fig. 6—Double 8-inch cushion rubbers

$$\text{M.E.P.R.L.} = \frac{PA}{I}$$

Where: M.E.P.R.L. = Mean effective polished-rod load.
P = Load per inch of card height, lbs.
A = Area of card, square inches.
I = Length of card, inches.

One of the most noticeable effect of floating sucker rods on rubber is a reduction in the peak or maximum sucker rod load, which is indicated in well weighing tests as the polished-rod load. Figure 10 is a series of dynamometer cards made on a well in the Tonkawa, Oklahoma, field at various pumping speeds, but with the same length stroke. Complete particulars of this well are given in Figure 10. In each of the six sets of cards made at the six pumping speeds indicated, card "A" represents the well load before the rubbers were installed. Card "B" indicates the load after a single unit was installed as in Figure 3, while card C was taken after two units had been installed as in Figure 6. The rubbers reduced the maximum load by amounts of 4.9 per cent to 12.6 per cent, depending upon pumping speed.

The explanation of how this reduction in peak load is accomplished lies in the reduced rate of deceleration and acceleration of the rods at the end of the down-stroke and start of the up-stroke due to the rubbers. A study of the dynamometer cards discloses that the rod load increases during the last half of the downstroke due to deceleration of the rods before the up-stroke is begun. During this part of the down-stroke, the rubbers undergo compression, allowing the polished-rod to slip through the carrier-bar, and resulting in an increase in polished-rod stroke, and thus decreasing the rate of deceleration of the rods. This reduction in "whip" of the rods is accompanied by a reduced deceleration impulse factor. The net result is that the rod load at the instant the direction of polished-rod motion is reversed is lower than would have been the case if the well were pumped at the identical speed and stroke without the rubbers.

After the upstroke has begun, the rod load increases as the pump-plunger load is picked up, and the rubbers are further compressed. This further compression causes the polished-rod to slip further through the carrier-bar of the beam hanger, and to lag behind the carrier-bar, thus decreasing the acceleration impulse factor, and reducing the up-stroke load below that obtained if no rubbers were used.

Thus, it will be seen that the rubber cushion allows the polished-rod to lag behind the beam-hanger on both the downward and upward stroke, and to move through a slightly greater vertical distance. The increased travel of the polished-rod results in a decreased rate of deceleration and acceleration, which results in lower dynamic or impulse loads. In practice the motion of the polished-rod through the carrier-bar varies between one-half inch and 2 inches, depending upon the difference between maximum and minimum loads and the number of rubber units used. The amount of motion may be computed from the compression charts shown in Figure 9, which give the amount of compression of rubbers of various diameters for loads as high as 24,000 pounds.

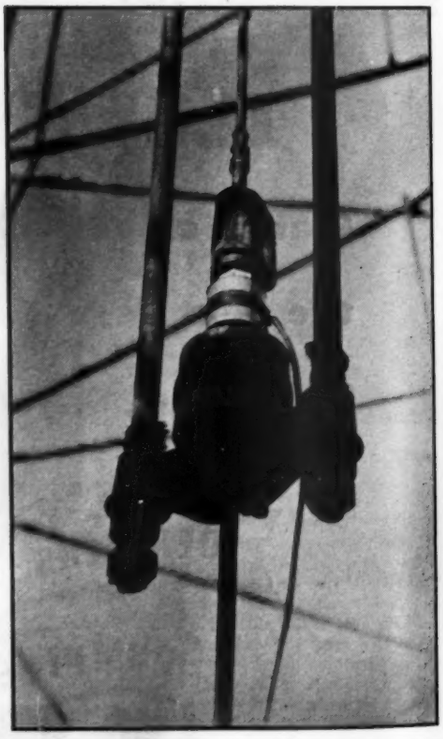
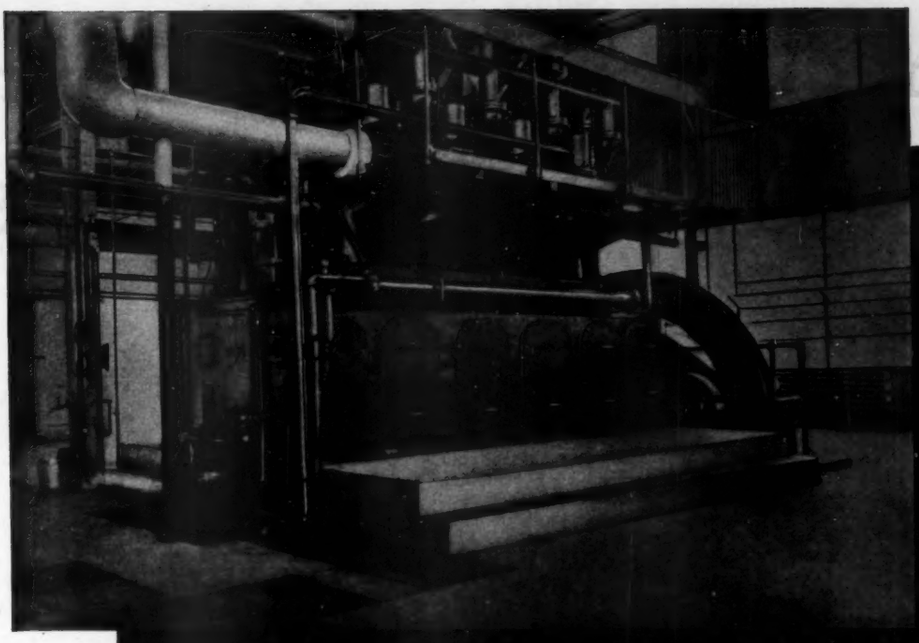


Fig. 7—Single 8-inch rubber cushion



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Acidizing Upper Limestone Formation Facilitated by the Use of Jelly Seal

By L. G. E. BIGNELL

Treating lime formations with hydrochloric acid has become a well established practice in the oil fields. As this method of increasing production has been developed many complications have been encountered because natural conditions are not always ideal and stratigraphy of formations encountered at times present problems for the acid treating company to solve.

The new methods of sealing formations making salt water is not the only new accomplishment of Dowell Incorporated, for the chemists of this organization have developed another mixture which is very useful in acid treatment where control in placing the acid is necessary.

If a well has penetrated a sand formation below a lime producing horizon an ordinary acid treatment would have little effect upon the lime because the acid would run into the sand and would not react upon the lime as desired. It is therefore desirable to temporarily close the pores in the sand, for this formation may be making some oil, and to later remove this seal and permit the upper lime formation as well as the sand to produce.

For this form of treatment Dowell chemists have developed and patented by J. J. Griebe and S. M. Stosser, April 23, 1935, No. 1,998,756, a compound made up of about 3 per cent organic material and 97 per cent water which when mixed form a jelly-like mixture. The consistency of this mixture may be regulated at will by varying proportions of organic material and water. It is usually used as a semifluid mixture and will set even when run into a well where underground temperatures vary from 90 to more than 180° F. This property of setting when subjected to heat is one of the features of this mixture.

The forming of a mixture to seal the pores of the sand was not so difficult for many organic materials are available to make a suitable jell, but to remove this jell from the pores when it had accomplished its purpose presented a more difficult problem.

The chemists for Dowell, however, are also familiar with the action of many forms of bacteria which will attack the organic portion of the jell and by removing it from the mixture leave only the water, which will naturally be easily displaced by the oil in the formation and permit free flow of the oil into the hole again. So into the jelly-like mixture, now known as jelly seal, is introduced a culture of bacteria having properties of attacking and devouring the organic substance in varying lengths of time. In this way the filler can be made to return to its liquid state in from 24 to 96 hours depending upon the rate of consumption of the organic part of the mixture.

This is a valuable contribution to the production department of the oil industry for it is now possible to perform many operations formerly difficult of accomplishment. In addition to sealing the lower producing sand member of a formation temporarily, the jelly seal can be used for testing permeability of a formation, or for sealing a section of the hole while a cement job is being done or for sealing off a water formation above an oil sand by running the jelly seal to the bottom of the hole and above it, precipitating the soap mixture to plug off the pores of the water formation.

One interesting application of jelly seal was in treating a well in the Edmond field where production was found in the Viola lime below which the well had penetrated Dolomite and below the Dolomite the Wilcox sand had been found. The well's initial rate of production had been reported as 175 bbls. per hour but later had declined until about 8 bbls. was coming from the Viola lime, 5 bbls. from the Simpson Dolomite and 140 bbls. from the Wilcox sand. It was then desired to treat the Viola lime and Simpson Dolomite with acid to attempt to increase production from those upper formations.

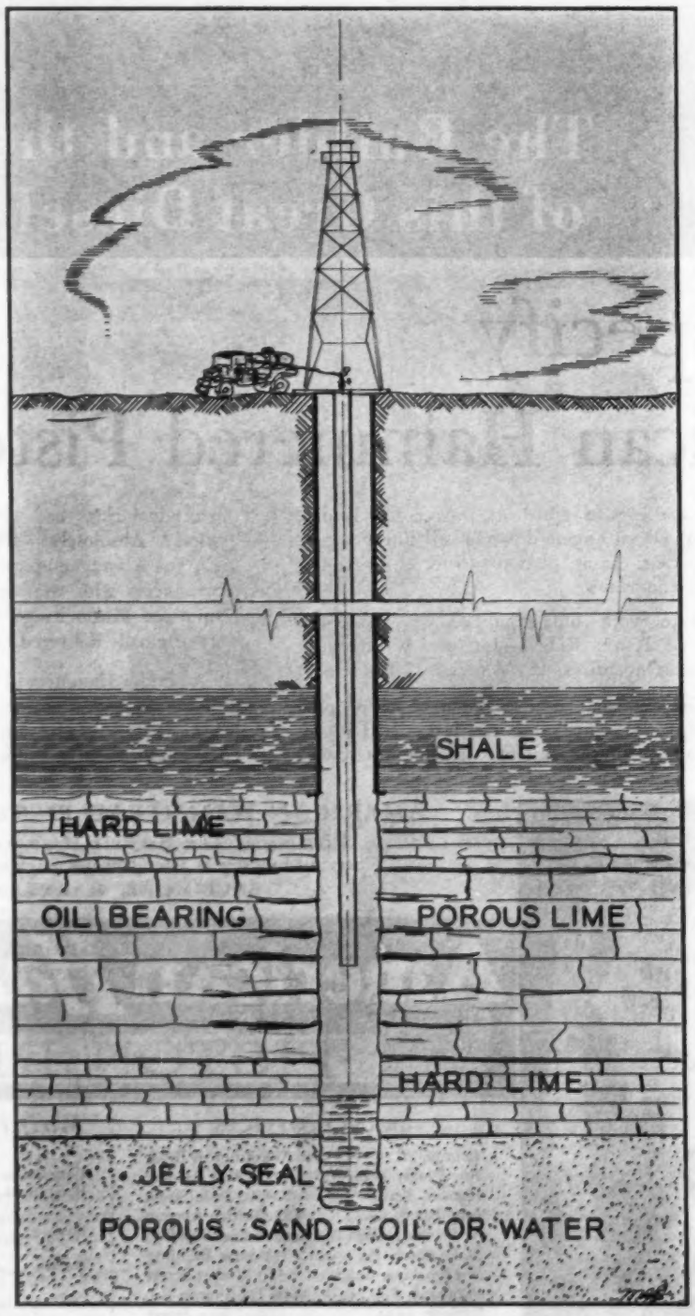
To do this it was necessary to seal off the Wilcox sand for a time and then treat the lime and Dolomite with acid, but later it was desired to permit the Wilcox sand to again produce its quota of oil. This was an ideal setup for the use of the jelly seal. Laboratory tests have shown it does not penetrate but an inch or two into the sand.

By calculation it was decided to run about 50 gallons of jelly seal into this well through tubing and place it opposite the Wilcox sand and force it into the pores of this sand. The jell-like mixture set in the bottom of the hole as desired and 2,500 gallons of hydrochloric acid was then introduced opposite the Dolomite and Viola lime and the reaction there was satisfactory. The results demonstrate the success of the combined treatment for when the well was tested it made 192.45 bbls. the first hour; 175.54 bbls. the second; 175.16 bbls. the third; 170.26 bbls. the fourth; 171.85 bbls. the fifth, and 186.98 bbls. the sixth hour. During the four-hour potential test the well made 175.19 bbls. per hour as compared with 40 bbls. per hour before treatment. Casing-head pressure when the potential test started was 1,070 pounds and at the end of the test it was 1,000 pounds.

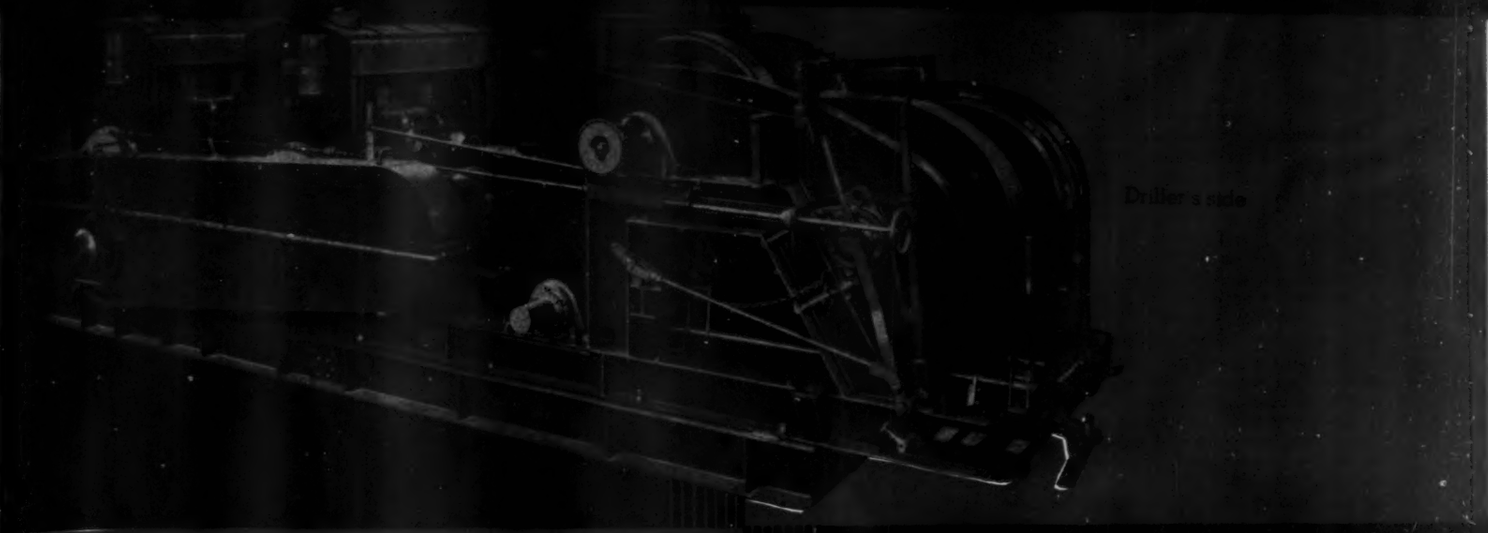
These results clearly show the well was materially improved. This increase can be directly attributed to the manner of treatment for an offset well treated with 4,000 gallons of acid in the usual manner showed no increase in rate of production.

Similar treatments have been made to other wells in various fields in Oklahoma and Kansas using jell-like mixture to seal off sands or lime before acid is introduced to treat the lime zones above the sands and good results have been uniformly experienced.

To make a permeability test in a well it is only necessary to run in a measured quantity of jelly seal to fill the lower portion of the hole. When this has set, gas or fluid can be pumped into the hole and if there are permeable formations above the top of the seal the fluid will enter at a rate which can be measured. Having tested the lowest section of the



Jelly seal placed opposite porous formation to permit acidizing lime stratum above, the jelly shutting off acid from lower formations



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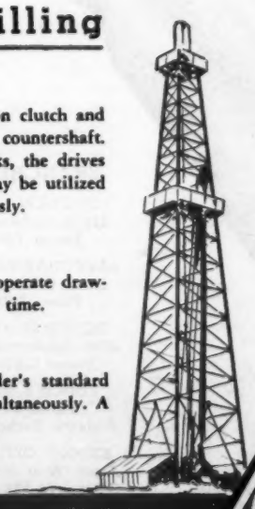

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formation a second batch of seal is introduced into the hole to fill up more of the lower section and another fluid or gas test made and the rate of entry of the gas or fluid into the formation measured. By repeating this operation as many times as desired, each time testing a higher portion of the structure and noting the relative rates at which the gas or fluid enters the formation, a very reliable permeability test of the formation can be secured. Where the gas or fluid enters freely the permeability is high and where the rate of entry is slower the permeability is lower.

One advantage of this test is that it is made under actual formation conditions and reflects the condition of the pores around the well bore, whereas, laboratory core analysis can only test small samples of the formation and these samples may not be truly representative of the formation a short distance from the well where taken. Numerous samples would give fair averages but because of the lack of uniformity of sedimentation and sand characteristics any means of actually testing wells has many advantages not to be obtained by other methods.

One characteristic of the jelly seal is that when mixed with water and formed into a jelly it will not take on additional water unless it is vigorously agitated and this condition need not be set up in a well unless desired. If the well makes a lot of gas it is possible the jelly would be agitated but in most places where it is desirable to use it high pressure gas does not exist in appreciable volume.

For a cement job it is possible to run a plug of filler B and protect a porous formation long enough to permit the cement to be set and drilled out and the jell will then return to liquid condition and the sealed formation be again opened.

This type of chemical research is of great importance to the industry and large chemical manufacturers have facilities at hand to carry on this work in cooperation with the oil companies and in this way lower research cost and save duplication of effort, one thing which adds to the cost of any research.

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Chemistry of Motor Fuels to Be Subject Before A.C.S.

The chemical future of motor fuel will be the theme of a national symposium to be held in connection with the ninety-first meeting of the American Chemical Society, Kansas City, Mo., April 13 to 17.

Prof. George Granger Brown of the department of chemical engineering of the University of Michigan will be the chairman of the sessions, sponsored by the society's divisions of petroleum, gas and fuel, and industrial and engineering chemistry. Several hundred petroleum chemists and scientific and industrial workers in allied fields will participate.

Papers and addresses will disclose new developments in the technology of gasoline, special safeguards to be imposed in the use of liquefied gases as motor fuel, such as propane and butane; progress in the use of diesel fuel, and the utilization of alcohol to run motors.

"Because of the large demand for liquid motor fuel, there is always an effort to include materials of a wider range of properties among those used as commercial fuel," says the announcement by Professor Brown. "Propane and butane being too volatile to be included in large amounts in ordinary motor fuel, and yet not volatile enough to be satisfactorily handled as a component of natural gas, have in the past been treated largely as waste products.

"During recent years these materials have been successfully employed as motor fuel by transporting the liquefied product under pressure vessels and vaporizing it only as it is immediately required for fuel by the engine. The latent heat of vaporization is usually furnished by the waste heat from the motor and the gaseous fuel is then mixed with air as required by the engine.

"The metering of the fuel in the gaseous condition can be done much more accurately and efficiently than the usual procedure of metering a liquid fuel into an air stream. Furthermore, propane and butane have very high antiknock value, much higher than other fuels commercially available, so that they can be used with much greater efficiency. There are, however, special problems which appear in the use of these fuels.

"Not only have efforts been put forth to use propane and butane directly as motor fuel, but by means of the polymerization processes which are now coming into commercial application it has been found possible to convert such materials into liquid gasoline of the normal desired volatility so that the yield of satisfactory gasoline for use in the ordinary automobile is still further increased from a barrel of crude oil."

Chemists from the General Motors Research Laboratories will describe the equipment which has been developed for the taking of high speed motion pictures of the combustion occurring within the cylinder of an automobile engine. These pictures are taken by means of a special high speed motion picture camera through quartz windows in the head of the engine.

The characteristics of polymer gasoline, and the special problems in the use of butane and propane will be among the problems to be discussed at the symposium, which will be devoted to chemical properties rather than to mechanical considerations.

Dr. Doherty Chosen President

PITTSBURGH, Pa., Mar. 2.—Dr. Robert E. Doherty, dean of the Yale engineering school, was chosen president of the Carnegie Institute of Technology. The board of trustees announced its choice of Doctor Doherty despite the protests of Mayor William N. McNair. Doctor Doherty succeeds Dr. Thomas S. Baker, who retired last September and became president emeritus of Carnegie.

Prime Movers for Rotary Drilling in the Mid-Continent

By

J. A. NILES
Mechanical Engineer, Stanolind Oil & Gas Co.

W. C. DREYER
Electrical Engineer, Westinghouse Electric & Mfg. Co.

A. P. I.—The trend of prime movers for drilling toward better fuel economy and greater adaptability to operating requirements peculiar to drilling operations is discussed by the authors in this paper delivered before the Spring Meeting of the Mid-Continent Section of the Production Division of the American Petroleum Institute at Wichita, Kans.

Recently there has been shown in the oil industry a widespread interest in more specialized and more efficient types of equipment, particularly for drilling operations. Equipment now available has demonstrated that it has ample capacity for present day drilling needs, and sufficient reserve capacity for much greater depths than have been drilled to date. Barring the introduction of some revolutionary principle of drilling, which seems unlikely, it therefore remains to perfect and improve upon the present apparatus. For several years there has been comparatively little buying of new equipment, and a large amount that is old or obsolete has been completely worn out and junked, so that now with the better economic condition of the oil industry, the situation is ripe for the commercial development of many types which have been in existence for some time, but have lacked the stimulus of an active market.

It may be said that the broader prerequisites of drilling equipment have become well established; we know what general principles are necessary or valuable; it therefore remains that only particular items and not general principles will be featured in new developments. The possibilities of new types of drives are infinite, and while all possess certain outstanding features, only the test of time and experience will prove which will survive.

The equipment used for the actual drilling, from drawworks to bit, is practically standard. It is in the prime movers and power transmission apparatus that the greatest variation exists. Drilling rigs may therefore be classified as steam rigs, all electric rigs using high line power, engine-electric rigs, and mechanical rigs, which may be either semiportable or portable. These types of rigs have come into general use chronologically in the order named, and all have proved successful to a greater or less degree in the field, so there is small likelihood that this broad classification will be enlarged in the future.

Steam Rigs

From the very first, steam has been the principal source of power for drilling oil wells. It possesses certain inherent advantages for this service, principal among which are high overload capacity and high starting torque, or the ability to start heavy loads from a dead stop. From long usage, oil field workers have become accustomed to steam equipment, and the newer developments, whether superior or not, must first overcome this handicap of familiarity, if they are to make headway. The conventional steam rig is designed solely to do the work at hand. It consists of boilers, drilling and hoisting engine, and direct-acting mud pumps. The simplicity of the hook-up is evident, but it is a relatively inefficient piece of machinery. Tests show that it uses about 3 per cent of the total energy in the fuel. Usually plenty of cheap fuel is available, and water is of fair quality.

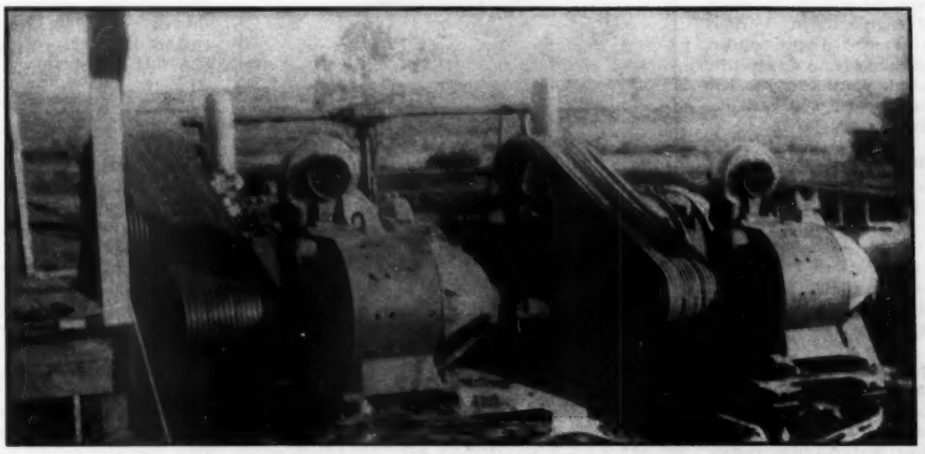
That the steam engine can be developed to a high state of efficiency is shown by the modern central power plant, where overall efficiencies up to 30 per cent may be obtained. Drilling equipment can never hope to reach this figure, but great strides are being made in this direction. Direct acting mud pumps use about 70 per cent of the total steam used in drilling, so that any improvement here will be of material benefit. In this type of pump, it is necessary to admit full steam pressure to the cylinder throughout the complete length of the stroke, in order to maintain the maximum mud pressure without stalling the pump. At the end of the stroke, the high pressure steam is exhausted to the atmosphere, and thus all the pressure energy is wasted. If, however, the admission of steam is cut off before the end of the stroke and it is allowed to expand to somewhere near atmospheric pressure before being exhausted, practically all of the energy can be utilized. This is accomplished in the steam engine by the valve arrangement, and the deficiency of power at the end of the stroke is supplied by a flywheel, which derives its momentum from an excess of power at the beginning of the stroke. By using a steam engine of suitable capacity, coupled to a power mud pump, it has been estimated that a saving of 30 per cent of the total steam used by the conventional rig can be effected.

It is obvious that if the cold boiler feedwater can be heated up from around 70° to a temperature near 212° F., less heat will need to be supplied by the boilers to produce steam. Exhaust steam from the engines, which would otherwise be wasted, can be economically used for this purpose. The closed type heater, in which the steam is separated from the feedwater by metal tubes, must be excessively large and cumbersome to produce any appreciable preheating, and for this reason preheaters as commonly found on drilling rigs are too small and practically worthless. Open type preheaters, however, in which the steam comes into direct contact with the feedwater, have greater possibilities. Upon coming into contact with the feedwater, the steam condenses, imparts heat to it, and is fed into the boiler along with the water. With a relatively small piece of equipment, it is claimed that a high degree of heating can be obtained. Other advantages are precipitation of some of the harmful solids and release of dissolved oxygen.

Any reduction in temperature of steam from the ordinary boiler will cause condensation. Thus, in traveling through the steam lines, a certain amount of condensation takes place, and upon striking the relatively cool walls of the engine cylinders, there is a further amount, which materially cuts down the performance of the engine. By passing the steam through a series of heated pipes known as the superheater, the steam is heated to a high degree and this condensation loss is avoided. The superheater may be fired within the boiler, or if separately fired, the degree of superheat may be controlled for varying steam consumption. In addition to better operating performances, a saving in fuel is also accomplished by the superheater, since the increase in volume due to the higher temperature does not require a proportionate amount of heat.

Further economies can be obtained by separate rotary table drive, in which the engine is better suited to the power requirements than the hoisting engine, and by insulation of boilers and lines. From a practical standpoint the value of insulation is problematical, as it is easily destroyed while transporting equipment.

It is evident that these improvements will add to the first cost of equipment. Their economic value depends purely upon the condition of the fuel and water supply of the area in which they are to be used. Roughly estimated, the addition of one engine driven slush pump, an open type preheater, and an externally fired superheater, and the elimination of one boiler from a three-boiler set-up, due to the lessened steam consumption, will add $5,000,000 to the first cost of a conventional heavy rig, and will effect a savings of 40 per cent in the amount of fuel consumed, and a slight-



Direct current mud pump motors with blowers mounted on motor frames

ly larger percentage of the amount of water used.

There has been little or no change in the A.C. electric drilling rig for some time. Wound rotor motors driving drawworks through gear speed reducers and driving mud pumps through V-belt drivers are exactly the same as were in use six or seven years ago. The number of A.C. rigs taking power from high lines has not increased. However, there are still a great many now in successful, economical use.

A.C. power has long been recognized as a suitable means of driving drilling rigs. The primary reason for its introduction and use is the saving in fuel and water. The cost of power and the cost of fuel and water vary with drilling areas. In many instances a cost analysis in which maintenance and first cost are considered favors its use.

It is the absence of economical high line power in many localities and the superior operating characteristics of D.C. motors as compared to A.C. motors for drilling which is accountable for the lack of increase in the use of such rigs.

There is an installation where a D.C. electric drilling equipment takes power from a high line. An A.C. motor drives the D.C. generators of a D.C. electric rig. Such equipment is somewhat higher in first cost than a straight A.C. rig, but does have the operating characteristics of D.C. equipment and permits the operator to take advantage of favorable power rates.

Engine Driven Rigs

Fuel and water requirements are much lower with internal combustion engine rigs than with steam rigs. Where these items have value and where A.C. power is not economically available such rigs show considerable saving per well, and their use has been increasing rapidly this year, particularly in the Mid-Continent area. The obvious reason is that recent drilling activity has been largely in areas where gas and water are not plentiful.

Gas, gasoline and diesel engines are in common use. The choice of engines depends primarily upon location, however first cost and maintenance have important bearing. In areas where some gas exists, the gas engine often shows best economy. In isolated locations or fields producing no gas, such rigs are at a disadvantage, but the increasing use of butane may change this picture. Diesel fuel is almost always economically procurable.

The problem of transmitting power from the engine to the rig has received almost as much attention as the type of engine itself. Various methods of doing this are employed successfully. These fall in three classes, namely, A.C. electric, D.C. electric, and mechanical. Each of these has its field of greatest economic worth and each deserves a separate discussion.

Engine Driven A.C. Rigs

A number of A.C. electric engine rigs are in use, several of which are put in service this year. As a rule these installations are considered to be a compromise to permit the use of existing A.C. rigs with internal combustion engines where high line power is not economically available. The desirable features of electric drives are thus obtained, together with engine economy, without excessive first cost.

The equipment consists essentially of one or more A.C. generators, each driven by one or more engines, either direct connected or belted. Such a generating plant, with suitable switching equipment, replaces the high line in furnishing power to the A. C. motors on the rig.

General view of generating unit showing generators, bearing pedestals and V-belt

The operating characteristics are exactly the same as those of an A.C. rig taking power from the high line, except in those cases where limited engine capacity restricts the motor operation.

A.C. power transmission is preferable to mechanical transmission for several important reasons. The first is, speed adjustment of the motors is accomplished independently of the engine speed. The engines are permitted to operate at rated speed, delivering the rated power which is used by the motor, and speed and direction of rotation of the motor is controlled by the usual drum controller at the rig.

Absence of any fixed mechanical ratio between engine and rig is an advantage. It permits faster hoisting, since there is not enough momentum to permit changing the speed ratio after hoisting is started. With fixed ratio the hoisting speed will not increase regardless of how the load falls off, so not over 50 per cent of the engine capacity is being used at top speed. With electric transmission the same load will be started and smoothly accelerated to full speed. This permits using full engine capacity during the entire hoist, and reduces hoisting time by at least 20 per cent.

In addition to these, electric transmission has the advantage of giving protection to the engine against stalling or sustained overloads, since protective relays operate to disconnect the motors when loads become too great. Further, there are the advantages of being able to locate the power plant at any convenient point, and of being able to connect a number of loads on the same generating plant.

A 200/400-horsepower at 450/900 r.p.m. D.C. drilling motor with blower unit mounted

Engine Driven D.C. Rigs

During the past year the D.C. rig has come to the front faster than any other type. Starting with three or four experimental rigs, the number has increased to 21 at the present time. Most of these are operating in the Mid-Continent.

Equipment Used

There is one type of D.C. rig which predominates. Variations from this type are universally due to attempts to reduce first cost, attempts to utilize some particular size of speed of engine to best advantage, or attempts to arrive at optimum sizes of individual parts for some specific drilling condition. The principle of operation is essentially the same for all types.

The predominating type of rig comprises two engines driving two main generators and one or two exciters. The second exciter is supplied to guard against shutdown and may be driven by the main engines or an auxiliary engine. The latter has the advantage that lights are made available when the main engines are shut down.

The generators are always designed to have a drooping voltage characteristic, which means that the voltage decreases with the amperage output of the generator. This is obtained by a series field, connected to oppose the shunt field, so that as the current taken from the generator increases, the strength of the series field becomes proportionally greater and bucks down the generator voltage. Adjustment of the amount of droop is made by varying the relative strength of the shunt fields, one of which is separately excited and the other self excited.

Where engine speeds are high, 900 to 1,200 r.p.m., generators may be direct connected. But with lower speeds, belt connection is necessary to step up generator speed, otherwise the cost of electrical equipment becomes excessive. This also affords protection from torsional vibration or resonant difficulties.

With generators coupled to a continuous shaft which is belt driven from two engines, all of the electrical equipment may be used at reduced capacity in case of the failure of an engine. Three or more engines of equivalent total capacity permits somewhat greater operating flexibility, and reduces the weight of the component parts.

In case the mud pump requires more than the output of a single engine, the common shaft permits transfer of power between generators, although completely independent operation of the engines is to be preferred from the standpoint of imposing less strain on the engines.

When drilling, one generator furnishes power to the pump motor and the other to the rotary table, but when hoisting, the generators are connected electrically, either in series or in parallel, to the drawworks motors.

The main motors are separately excited shunt wound. The fields are constantly excited in one direction and the motors are connected to the generators except when stopped or when changing from the drilling to the hoisting connection. The motor speed and direction of rotation are a function of the power coming from the generators, and vary with the generator voltage and direction of flow of the generator current.

The motors are forced ventilated primarily to permit stalling or operating at low speed without overheating. When explosive gases are present these blowers may be used to ventilate with pure air.

There is wide variation in the auxiliary equip-

ment used on D.C. rigs. Use of lights, electric driven blowers on main motors and wash down pumps are practically universal. Usually either cooling water pumps or radiator blower motors are required, and very often shale shakers. These auxiliaries are of proper voltage to operate on power from the exciters, and the motors are drip proof or weather proof construction.

The greatest departure from this predominating type of rig is a five generator scheme now being installed. Five small generators and exciter units are direct connected to five small high speed engines. The control is arranged to throw any or all five of the generators in series on either the drawworks motor or the mud pump motor, and speed is controlled by a single drum controller for each motor. When an engine needs working over it can be removed and the whole generating unit hauled into a shop without seriously interfering with drilling operations. The reduction in cost of equipment is due primarily to the use of cheaper high speed engines, and the success of the rig depends to a large extent upon the ease with which repairs can be made.

Another departure from the usual type of rig which warrants attention is the layout using D.C. electric drive for the drawworks and a mechanical drive for the mud pumps. A generator and exciter are direct connected to a shaft from which engines and mud pumps are belted.

This is an equipment intended to reduce first cost of the rig by eliminating the mud pump motors and to increase the efficiency of power transmission from engines to pumps. The first cost is not reduced by the total value of the eliminated equipment since additional clutches, shafting, and bearings are required and additional electrical equipment, such as voltage regulator and over sized exciters are required to permit successful operation over the speed range in which the engines must operate to mechanically drive the pumps.

Mechanical drive for the mud pumps is successful and more economical due to lower first cost and greater efficiency of transmitting power, but has the disadvantage of increasing maintenance on the engine clutches. Further, there is no inherent regulation or automatic adjustment of load on the engines with changes in pump operation.

Advantage of D. C. Electric Rigs

The fundamental reason for using D.C. equipment for transmitting power from engine to rig is that it is the only entirely suitable method of adapting engine characteristics to the characteristics of the drilling load. The only disadvantage of this type of drive is its somewhat higher first cost as compared to other methods.

The operating characteristics are superior to A.C. equipment in almost every way. At reduced speeds the efficiency of D.C. is higher as there is no sacrifice of power in grid resistors. The speed of the D.C. motor is controlled by varying the field of the variable voltage generators where only small current is used.

With direct current equipment the generator fields are proportioned to limit the peak loads taken by the rig to within the engine rating, so that possibility of stalling the engines is eliminated. This proportioning of fields also limits the maximum current which can be drawn from the generators, thereby making it possible to stall the motors for a short time without doing any damage.

Slow motor speeds at light loads are obtained with D.C. by merely reducing the generator fields, since field reduction lowers the speed at no load exactly the same as at other loads.

With full field on the generators, the no load speed of D.C. motors is higher than that of A.C. motors. This is because there is no speed limitation due to frequency. This feature is of advantage in hoisting empty blocks.

One point in favor of D.C. drives as compared to A.C. is that for the same hoisting duty smaller engines may be used with the D.C. The reason for this is the fact that an A.C. motor speed is a function of frequency of the alternating current and the motor power input depends upon motor torque and not upon the motor speed. With D.C. the motor speed is a function of generator voltage and if the generators have a drooping voltage characteristic any increase in motor torque causes the motor speed to drop off. The increased torque

Fortune smiles again

A Montana skimming plant refiner—and a good one—was making straight-run gasoline, premium quality tractor distillate and fuel oil. Motorists bought his gasoline, farmers bought his tractor fuel and the railroad took his fuel oil—he prospered.

Then competitors brought in anti-knock gasoline. His gallonage slumped. The railroad bought less fuel oil. Distillate sales could not carry the load alone.

The refiner called in Parsons. Parsons designed and built him a special Dubbscracking—Dubbs reforming unit.

Now his gasoline yield is doubled and it's Dubbscracked gasoline (70 octane.) His distillate business still flourishes. His Dubbscracked fuel oil finds a ready market at a good price.

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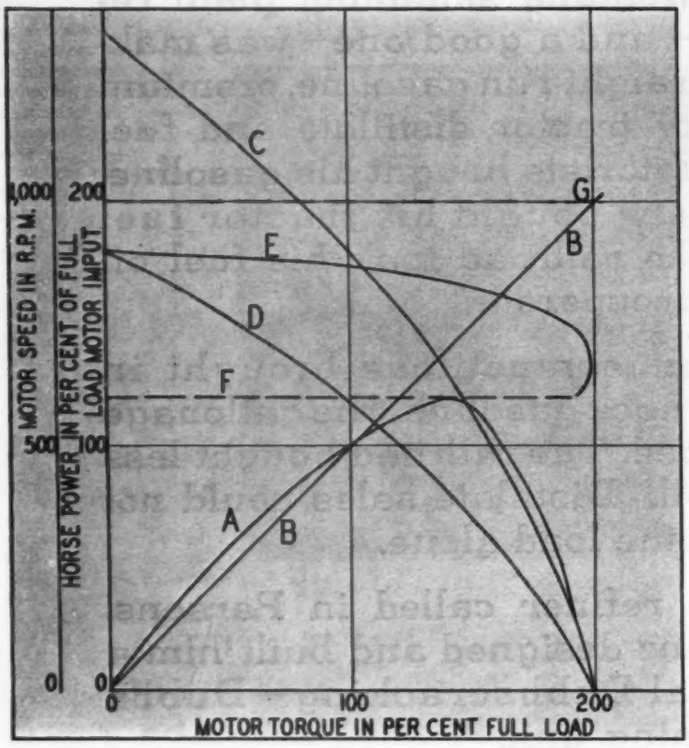
raises the load on the engines and the decreased speed lowers it.

This can best be illustrated by curves, the no load speed of the A.C. motor is fixed at 900 r.p.m.



Comparison curve of A.C. and D.C. motors with same max. torque

by the frequency of the power generated and the number of poles of the motor. At loads higher than zero there is a speed drop caused by losses in the motor or in extreme resistors. Curve E shows the speed at various torques with no external resistors, and curve D shows the same thing with resistors in the secondary circuit of the motor to obtain better starting duty. These speed reductions are in no case obtained by a reduction in the input of power to the motor. Curve B is a straight line showing that horsepower input is proportional to motor torque.

Curve C shows the variation in speed of a D.C. motor. The drooping of this curve is caused by a drop in generator voltage which is accompanied by a decrease in motor power input.

The maximum starting torque is shown to be 200 per cent, at which point curves C and D both reach zero.

When a load requiring this torque is being started the input to the A.C. motor is shown at point B. The input to the D.C. motor at the instant of starting is zero but increases along curve A to a maximum at point F. The exact value of F depends upon the shape of curve C, which in turn depends upon generator field adjustment.

The horsepower values of points G and F show the relative engine horsepower required by an A.C. motor compared to that required by a D.C. motor in exerting exactly the same maximum pull. The difference is decidedly in favor of D.C. and is of particular importance in hoisting.

Mechanical Rigs

Mechanical rigs, in which the power from the prime movers is transmitted by such means as chains and V-belts, afford an opportunity for much ingenuity in design. As yet they are far from being standardized, and in size they run from the largest to the smallest, being particularly well adapted to portable equipment. The internal combustion engine in itself is not well suited for drilling services, having small overload capacity and low stalling torque. This deficiency must be made up in the transmission, and has resulted in two general principles found in present-day mechanical rigs; first, compounding the output of two or more engines to meet heavy power demands, as when hoisting drill pipe; and second, the use of friction clutches to enable the engines to pick up heavy loads from rest while running at speed, and also to avoid shock on the mechanism. The early rigs had a separate engine for each drive, and to meet the power demands while hoisting the hoisting engine had to be excessively large. The compound drive permits considerable flexibility. In case of breakdown all units may be driven by one engine, or the output of both engines may be coupled to any one unit. In the usual form, stubshafts from each engine are connected by a chain or V-belt, which is engaged by clutches. A sprocket on one shaft drives the reverse clutch or drawworks, while a sprocket on the other shaft drives the mud pump. Ordinarily while drilling the engines are not compounded, one engine being used to drive the mud pump while the other drives the rotary table. The marked similarity between this drive and the engine-electric drive is evident.

Perhaps the greatest field for mechanical transmission is in portable equipment. The possibilities of portable equipment are as yet somewhat in doubt. Its ease of transportation and rapid setting-up time are attractive features, but it may not have sufficient reserve power and strength to meet severe or unusual conditions. Wells up to 5,000 feet in depth are being drilled successfully with this equipment, and its use in certain areas may prove very economical. However, for workover jobs, and exploration work in isolated or inaccessible territory, its use will certainly become widespread. This equipment must be sufficient, compact, and as of light weight as is consistent with strength demands. The engine driven mechanical transmission best meets these considerations. In the lighter types of rigs, the drilling units, comprising drawworks, auxiliary engine, transmission, and mud pump, are mounted on a single truck. The truck engine is usually compounded by means of a power take-off, with the auxiliary engine. A somewhat heavier type is mounted on skids and is transported in three units. One unit contains the drawworks and speed change apparatus, the second contains the two driving engines, and the third contains the mud pumps. Speed changes are usually effected by means of a gear box similar to those on automobiles, or by a chain-coupled box, as these types are more compact than the usual drawworks chain-driven speed changer. Since with the present design it is impossible to change gears while hoisting, the power of the engine is not utilized to the best advantage. This is a common drawback of all present mechanical transmissions.

It has been found impossible to make specific comparisons between different types of equipment, as local conditions of the areas in which the equipment is to operate are the determining factors in the suitability of any one type.

From the operating standpoint, steam and direct current electrical rigs are by far the superior, as they offer a smoothness and flexibility of control obtainable in no other type. The total weight and rigging up time is about the same for the two types, but the first cost of engine-driven electric rigs is considerably higher. In the matter of first cost, steam has an advantage over all other types. But even in areas in which there is an ample supply of fuel and water, operating costs favor engine-driven rigs. Fuel costs for engines in these areas will run about one-twelfth to one-half the costs for a conventional steam rig, depending on the fuel used, with natural gas, fuel oil, and gasoline rating in the order named. The cost of high line power varies considerably, but will probably be intermediate between engine-driven and steam rigs. Added maintenance and repair costs on engine rigs will cut down the advantage of lower fuel costs somewhat.

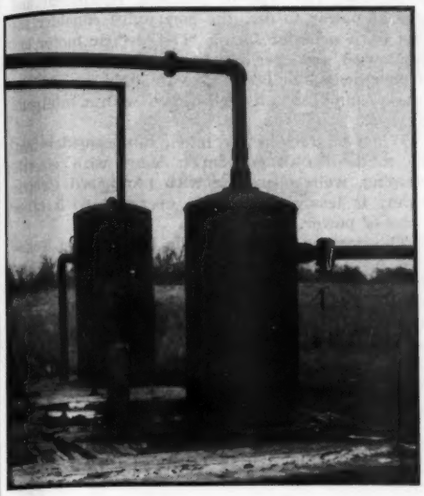
The first cost of mechanical rigs is intermediate between steam rigs and engine-electric rigs and they are lighter in weight than either. Operating characteristics are poorer, and maintenance expense will be greater, due to the multiplicity of moving parts.

SPECIAL TANK ROOF HALTS REFINERY FIRE

The accompanying photograph shows the twisted and warped remains of a 25,000-bbl. cracking stock storage tank which was completely destroyed when an explosion of undetermined origin blew the cone roof entirely off the tank. The resulting fire, which for a while threatened to destroy the entire Muskegon refinery of Naph-Sol Refining Co., was combated for 18 hours before finally brought under control. The refinery's supply of foam and that of their neighbor's was exhausted on the tank but did not control the fire.

The tank in rear of the destroyed tank, which is equipped with a breather roof, held about 18,000 bbls. of cracking stock at the time of the fire and as oil from the burning tank boiled over, the flaming oil spread around the base of the tank and exposed it to a severe fire. At various times during the fire, vapor from the vents would catch fire for a time but always would be snuffed out as soon as firemen could play streams of water on the tank, thus reducing the temperature and stopping the tank from venting. The extreme exposure to fire damaged the upper rings of the tank equipped with the breather roof and buckled some of the plates but the tank was not damaged beyond repair only 1,000 bbls. of oil being lost.

OPERATING IDEAS



Repressuring Plant Scrubbers

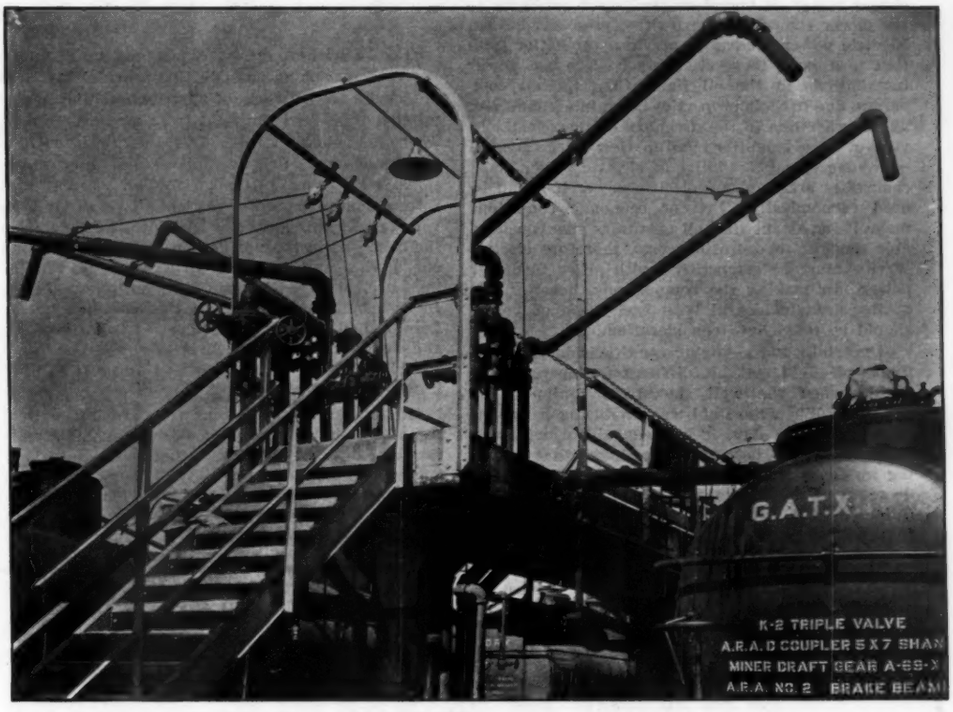
To scrub vapors and gases returning to the compressor after having passed through the oil producing formation, many devices have been built. The two scrubbers shown in the accompanying picture are located at a gas repressuring plant in Rogers County, Okla., and satisfactorily remove dirt and moisture from the returning vapors before they go to the compressor to be returned to the formation. The shells are filled with baffles. The nearest scrubber discharges at the top, while the other one discharges at several openings provided in the side of the shell. These scrubbers have proved to be very effective for cleaning incoming gases.

Anchor for Pulling Machine

To prevent any possible movement of the pulling machine while it is in operation, one oil company operating in the St. Louis, Okla., area has buried dead men at each of its wells to act as anchors for its portable skid-type pulling machines. The dead man is buried so that only the connecting clamp is left protruding above the surface. Two seven-eighths-inch cables, held apart by a 2-inch pipe to prevent the cables from contacting any part of the truck, anchor the machine to the dead man. After the cables are connected to the dead man and the slack removed by reversing the truck until the lines are taut, to prevent any backward movement of the truck, the machine is then ready to be put into operation.

Loading Rack Features Counterbalanced Flow Lines

The unusual loading rack shown in the accompanying picture could well serve to illustrate the modern type of construction maintained by one large refining company in its plant on the Gulf Coast. The rack is constructed entirely of steel and reenforced concrete with steel guard rails running the length of the structure. All loading lines are counterweighted, which allows the lines to be lowered gradually and eliminates the fire hazard of lines falling on the tank domes and sparking. The length of the cables connecting the loading lines and counterbalances is adjusted so that when the lines are not in use they will be raised sufficiently high to prevent interference with spotting the cars but still be within easy reach of the loader. Walkways leading to the car domes are present at each loading position, being hinged to the loading rack so that they might be raised by the attached chains when not in use.



Gas Engine Muffler

To provide a muffler for a 100 h.p. gas engine the device shown in the accompanying picture was made. It consists of a vertical drum about 30-inch diameter with the exhaust from engine connected near bottom of shell on one side and four exhaust outlets connected at varying heights and quartered around the upper part of the shell. The interior of the shell is filled with large pieces of limestone which were picked up near the plant. Scrap pipe was used for the exhaust outlets, being welded to the drum.

Electric Power Receiving Widespread Attention for Pumping Oil Wells

By J. E. ELLIOTT
Power Engineer, Southwestern Gas & Electric Co.

With practically every oil field problem, there is involved a certain amount of risk, whether it be pipe line pumping, oil well pumping, or the numerous other applications. These risks usually show up in the final analysis in terms of dollars and cents. When the oil industry purchases power, it transfers the power problems to the power company, where these problems belong. Electric power companies are in a far better position to assume these risks involved in the power installations in the oil fields than the oil companies, due to their properties being interconnected, and further due to the diversity of their load. In view of these conditions and in view of the general convenience and flexibility of electric power, most companies prefer to use electric power if it can be used economically. Present economic conditions make it important that oil operators give considerable thought to operating costs, therefore electric service must be competitive with other forms of power. In making the comparisons, however, all of the costs incidental with each form of power should be taken into consideration.

Uncertain and changing conditions in the East Texas oil field make it difficult for operators to decide when the well should be equipped for pumping. When the field was producing a million barrels of oil a day, it seemed evident with the rapid decline in bottom-hole pressure that pumping would be required within 90 days. The recent decrease in the allowable has again changed conditions, and it is not now known when the entire field will be put to pumping.

When the daily allowable can be produced in a few hours' pumping, resulting in the use of a small amount of energy per well per day, it is quite obvious that due to the difference in fixed charges between a gas engine and an electric installation the application of electric power for oil well pumping will receive considerable favor by many oil companies.

For efficiency, operators demand as near 100 per cent service as possible. To provide this class of service, a network of distribution and transmission lines feed the field from many directions. There is available a total of 74,500 kilowatts (100,000 horsepower) in power plants and interconnections, this being sufficient for all present and future requirements in the field. Two major high voltage transmission lines feed into the field from the east, one in the northern part of the field and one in the southern part. In like manner similar lines are connected to the field from the west side. In case of a catastrophe on the east side of the field, the entire load can be carried from the west, and vice versa. With such interconnections, there have been no major interruptions in the field since it was discovered.

A number of substations throughout the field transform the voltage from 66,000 to 11,500 volts for distribution. These distribution lines form a network throughout the field. There is service available on practically every lease and in a manner providing service from a number of different directions. If a difficulty is encountered on one distribution line, service can be obtained from another without interruption to the oil company.

East Texas producers have already made heavy investments in leases, wells, rods, tubing, and other fundamental requirements. When the time arrives to consider the type of pumping equipment and type of power to use, the companies consider the first costs a major factor. The electric motor has the lowest cost per horsepower of any class of prime-mover, and because of its light weight and ease of handling can be installed with a minimum expense.

When all factors are taken into consideration, the total over-all cost of a lease with electric pumping, wells operating with purchased electric power, is less than a lease operated with other forms of power.

The various rates available in the East Texas field were designed to meet the desires of any particular customer. For oil companies having a relatively high operating load factor, there is a form of rate which gives the benefit of low unit costs to such operators. If, because of peculiar conditions in the field, the oil company is not able to operate at a high load factor, there is another form of rate based on the use of energy only which is beneficial to consumers under these conditions. The electric company will furnish all transformers if preferred. Companies preferring to own the transformers and distribution lines on the lease benefit by having all the service pass through a single meter. In the past there has been some objection toward demand charges on the part of the oil industry. These objections have been overcome by the maximum simultaneous demand billing method, necessary because of the peculiar conditions necessary in the East Texas field. Many companies believe that electric power has a decided advantage during the early pumping stages when salt water is not encountered in large quantities. The objection is sometimes raised that electric power costs become too high when wells are required to pump large volumes of water. The Southwestern Gas & Electric Co. has taken this fact into consideration in the designing of its rate schedules,

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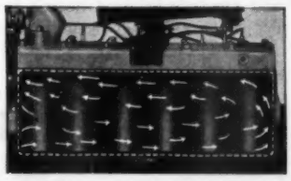

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New "Fore-point" load distribution increases hauling efficiency. Crankshaft has 4 main bearings. Safety-steel cab lasts longer. Dodge pioneered this type of cab. Dodge has led over the years in quality truck building, now leads by a wider margin than ever!

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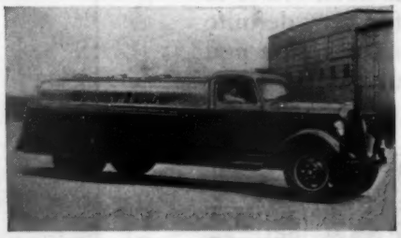

Genuine HYDRAULIC BRAKES save tires, brake linings and adjustment expense. Dodge introduced hydraulic brakes in low-priced trucks! See your Dodge dealer today.

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**List prices at factory, Detroit, subject to change without notice. Special equipment, including dual wheels on 1½-ton, extra.*

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in that the unit cost decreases as the load increases. Electric power is adaptable to any and all operations of the oil industry for the smallest motor and the largest. It is immediately available upon the pressing of a button, or the throwing of a switch, regardless of temperature or other weather conditions. Electric service is now available on practically every lease in East Texas, or can be made so upon one day's notice.

Aerial Mapping Facilitates Oil, Mineral Reconnaissance

The use of the airplane as a tool in the study of the geology of mineralized areas was discussed before members of the American Institute of Mining and Metallurgical Engineers by two members of the staff of Fairchild Aerial Surveys, Inc. A complete exhibit of slides, maps, and equipment used in this work was displayed at the Engineering Societies Building, 29 West Thirty-ninth Street, New York City, where the annual meeting of the institute was held.

Leon T. Eliel, vice president of the Fairchild firm, explained the value of the aerial maps made from photographs taken in airplanes flying over mineralized or unexplored territory. By studying changes in vegetation, erosion patterns, alignment of topographical features, and various other details that can be comprehensively surveyed only from the air, the geologist can develop a reasonably creditable capacity of interpretation, Mr Eliel said.

There are three general classifications covering the application of aerial mapping to mining and oil problems, the speaker stated. They are areal geology, in which great tracts can be studied and distinctly unfavorable areas are eliminated; detailed geology, in which photographs of known mineralized sections are taken with the intention of learning characteristics of the mineralization; and finally photographs taken in connection with the development and operation of properties, which may assist in solving many questions of immediate practical concern.

A new device, known as a "solar navigator," has been developed to increase the efficiency of work done by mapping airplanes, Mr. Eliel announced. This device assists the pilot in flying in a perfectly straight course so that the photographs taken may be more easily and efficiently aligned. The device consists of a drift indicator suspended from a sun-compass in the ceiling of the airplane. The sun-compass registers by remote control on a galvanometer on the pilot's instrument panel. To fly any given course, the desired course is set between the direction of the drift lines of the drift indicator and the axis of the sun-compass. This combination registers on the pilot's instrument panel when he departs in his direction of movement from the desired direction.

With the assistance of this control, accuracy of one-quarter degree can be attained in fairly inaccessible regions, the speaker added.

Another new device to which the speaker referred is the "stereoplanigraph," which permits the plotting of precise contour maps from aerial photographs.

W. H. Meyer, Jr., also of the Fairchild staff, discussed the progress made in facilitating the aerial mapping work. Fairchild has developed an airplane designed especially for photographic work. Its necessary attributes are good visibility for the pilot, who must follow the ground features directly beneath the airplane and also be able to see well ahead; ability to operate steadily at high altitudes; stability, which will allow it to hold its course and also to attain altitude in a short time; gasoline capacity for at least five hours of operation; and rugged construction, because of the necessity of operating from airports that may be third-rate or worse.

Campbell on A.P.I. Committee

R. O. CAMPBELL, of the British American Oil Refineries, Ltd., Toronto, has been appointed to membership on the American Petroleum Institute's Committee on Testing Methods and Specifications, one of the committees in the Division of Refining. Mr. Campbell replaces D. W. Monroe of the same company, who has resigned.

May Cut Tax

Following prospects of a British budget surplus, negotiations are proceeding between motoring organizations and the government in England with a view to reducing petrol tax by 2d a gallon and horsepower road license tax by a further 25 per cent in the forthcoming budget.

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Cable-tool drilling is coming back strong! Under many conditions it has been found to be the logical system to use, for very definite reasons. Write for detailed information and catalogue. Spang and Company, Butler, Pa.

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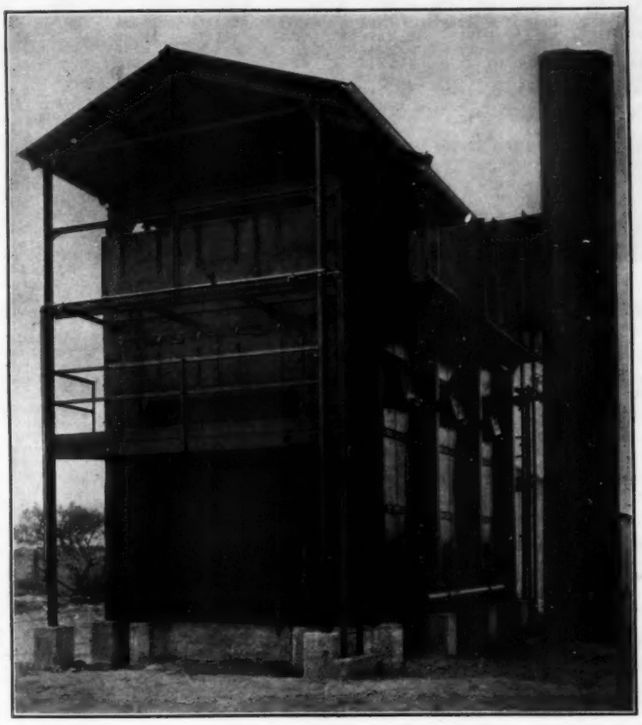

Due to the arrangement of heating surface on a large portion of the wall area and to the high heat transfer rates obtained, the amount of ground area required for the Lummus Heater is very much less than the conventional types. The height is seldom higher than any other type.

Since all tubes run in the same direction little ground space is required for their removal and replacement.

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Write for 12-page technical bulletin describing Lummus Oil Heater

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LUMMUS
PETROLEUM REFINING PLANTS

Bureau of Mines Statistics for December, 1935

PRODUCTION OF CRUDE PETROLEUM BY STATES AND PRINCIPAL FIELDS

(Thousands of barrels of 42 gallons)

	December, 1935		November, 1935		Jan.-Dec.,	Jan.-Dec.,
	Total	Daily av.	Total	Daily av.	1935	1934
Arkansas	902	29.1	890	29.7	10,973	11,182
California:						
Huntington Beach	1,319	42.5	1,300	43.4	15,133	15,006
Kettleman Hills	3,272	105.5	3,319	110.6	27,607	21,290
Long Beach	2,461	79.4	2,391	79.7	26,563	22,788
Santa Fe Springs	1,685	54.3	1,629	54.3	16,159	14,663
Rest of state	12,290	396.6	11,655	388.5	122,370	100,458
Total California	21,027	678.3	20,294	676.5	207,832	174,305
Colorado	128	4.1	122	4.1	1,549	1,139
Illinois	344	11.1	369	12.3	4,305	4,479
Indiana	58	1.9	60	2.0	757	838
Kansas	4,452	143.6	4,385	146.2	54,787	46,482
Kentucky	391	12 6	424	14.1	5,255	4,860
Louisiana:						
Gulf Coast	3,868	124.8	3,759	125.3	40,317	23,794
Rest of state	1,182	38.1	962	32.1	9,552	9,075
Total Louisiana	5,050	162.9	4,721	157.4	49,869	32,869
Michigan	1,355	43.7	1,452	48.4	15,256	10,603
Montana	427	13.8	412	13.7	4,594	3,603
New Mexico	1,850	59.7	1,806	60.2	20,586	16,864
New York	367	11.8	353	11.8	4,237	3,804
Ohio:						
Cent. and East	260	8 4	252	8.4	3,163	3,258
Northwestern	58	1.9	66	2 2	907	976
Total Ohio	318	10 3	318	10.6	4,070	4,234
Oklahoma:						
Oklahoma City	3,913	126.2	4,033	134.4	54,359	62,829
Seminole	3,830	125 2	3,920	130.7	47,509	28,183
Rest of state	7,570	244.2	7,366	245.5	83,480	79,095
Total Oklahoma	15,363	495.6	15,319	510.6	185,348	180,107
Pennsylvania	1,291	41.6	1,306	43.6	15,830	14,478
Texas:						
Gulf Coast	6,321	203 9	5,876	195.9	64,323	60,155
West Texas	4,825	155 7	4,801	160.0	55,289	50,272
East Texas	14,444	465.9	14,140	471.3	175,918	181,540
Panhandle	1,865	60.2	1,797	59.9	21,326	20,280
Rest of state	6,461	208 4	6,219	207.3	74,241	69,269
Total Texas	33,916	1,094 1	32,833	1,094.4	391,097	381,516
West Virginia	300	9.7	301	10.0	3,903	4,095
Wyoming:						
Salt Creek	520	16.8	516	17 2	6,252	6,520
Rest of state	648	20 9	591	19 7	7,398	6,026
Total Wyoming	1,168	37.7	1,107	36.9	13,650	12,556
Other*	4	....	4	....	44	51
Total U. S.	88,711	2,861.6	86,476	2,882 5	993,942	908,065

*Includes Missouri, Mississippi, Tennessee, and Utah.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 gallons)

	December, 1935		November, 1935		Jan.-Dec.,	Jan.-Dec.,
	Total	Daily av.	Total	Daily av.	1935	1934
CRUDE PETROLEUM:						
Runs to stills	84,992	2,742	83,180	2,773	966,243	895,636
MOTOR FUEL:						
Production	41,110	1.326	40,461	1.349	465,514	423,801
Imports:						
Bonded warehouses	....	....	....	....	20	....
For domestic use	....	....	....	....	....	1
Exports*	3,243	105	3,050	102	30,380	24,686
Stocks, gasoline	50,647	....	46,295	....	50,647	48,205
Stocks, nat. gasoline	3,698	....	3,917	....	3,698	3,740
Domestic demand	33,734	1,088	35,956	1,199	432,556	407,106
KEROSENE:						
Production	4,624	149	4,878	163	55,813	52,855
Exports	567	18	593	20	6,644	9,781
Stocks	7,915	....	8,879	....	7,915	6,398
Domestic demand	5,081	164	4,724	157	47,652	44,224
GAS OIL, FUEL OIL:						
Production	32,269	1,073	30,590	1,020	341,251	326,971
Transfers†	1,621	52	1,286	43	13,874	8,382
Imports:						
Bonded warehouses, for supplies of vessels	1,054	34	919	31	12,105	8,281
For domestic use	194	6	320	11	7,558	4,352
Exports	2,650	85	2,605	120	28,489	28,605
Stocks	103,984	....	108,847	....	103,984	110,397
Domestic demand	38,251	1,237	36,615	1,221	352,712	331,989
Railroad (Class I)‡	(§)	(§)	4,216	141	¶42,833	¶40,315
Pub. util. pow. plants‖	1,115	36	1,104	37	11,300	10,379
Other	32,811	1,059	29,912	697	243,234	227,392
Bunker oil, foreign	2,304	74	**2,207	74	29,226	28,993
Bunker oil, coastwise	2,121	68	**2,176	72	26,119	24,910
LUBRICANTS:						
Production	2,484	80	2,453	82	27,771	26,373
Imports	1	....	....	....	1	2
Exports	884	29	632	21	8,480	7,660
Stocks	7,025	....	6,857	....	7,025	7,331
Domestic demand	1,423	46	1,576	53	19,598	18,484
WAX (thous. of lbs.):						
Production	40,320	1,301	41,720	1,391	459,240	468,720
Imports:						
Bonded warehouses	....	....	112	4	406	2,543
For domestic use	1,021	33	112	4	19,260	33,749
Exports	24,138	843	23,860	795	230,933	198,958
Stocks	114,675	....	120,398	....	114,675	136,136
Domestic demand	20,936	675	22,242	741	260,434	240,035
COKE (short tons):						
Production	195,600	3,406	197,800	3,593	1,458,000	1,300,000
Stocks	388,900	....	408,200	....	388,900	495,100
ASPHALT (short tons):						
Production	202,700	6,539	248,200	8,273	3,246,700	2,840,500
Imports (natural)	....	....	....	....	24,200	15,600
Stocks	405,400	....	376,700	....	405,400	339,200

*Includes benzol, 45,868 bbls. in December, 1935. †Net transfers in California. ‡I.C.C. §Not available. ¶January-November. ‖U. S. Geol. Survey. **Revised.

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE

(Thousands of barrels of 42 gallons)

	December, 1935		November, 1935		Jan.-Dec.	Jan.-Dec.,
	Total	Daily av.	Total	Daily av.	1935	1934
Production	3,654	118	3,598	120	38,858	36,556
Decrease in all stocks	219	7	467	16	518	....
Total	3,873	125	4,065	136	39,376	36,556
Blended at refineries	3,229	104	3,395	113	29,827	26,956
Run through pipe lines in California	80	3	75	3	745	1,206
Jobbers, exports, etc.	470	15	499	16	6,463	5,191
Increase in all stocks	....	....	....	....	....	60
Losses	94	3	106	4	2,341	3,233
Total	3,873	125	4,065	136	39,376	36,556

SUPPLY AND DEMAND OF ALL OILS

(Thousands of barrels of 42 gallons)

	Dec., 1935	Nov., 1935	Dec., 1934	Jan.-Dec., 1935	Jan.-Dec., 1934
NEW SUPPLY:					
Domestic production:					
Crude petroleum	88,711	86,476	74,797	993,942	908,065
Daily average	2,862	2,883	2,413	2,723	2,488
Natural gasoline	3,654	3,598	3,263	38,858	36,556
Benzol*	192	178	131	1,877	1,708
Total production	92,557	90,252	78,191	1,034,677	946,329
Daily average	2,986	3,008	2,522	2,835	2,593
Imports†:					
Crude petroleum:					
Bonded warehouses	211	222	636	6,635	4,863
For domestic use	3,125	2,020	2,563	25,604	30,695
Refined products:					
Bonded warehouses	1,055	919	973	12,128	10,054
For domestic use	663	321	715	8,309	4,882
Total new supply, all oils	97,611	93,734	83,078	1,087,353	996,823
Daily average	3,149	3,124	2,680	2,979	2,731
Decrease in stocks, all oils	3,486	1,669	5,891	32,448	37,848
DEMAND:					
Total demand	101,097	95,403	88,969	1,109,801	1,034,671
Daily average	3,261	3,180	2,870	3,041	2,835
Exports:					
Crude petroleum	4,098	4,289	2,427	51,378	41,127
Refined products	7,512	8,116	6,144	76,774	73,380
Domestic demand:					
Motor fuel	33,734	35,956	30,581	432,556	407,106
Kerosene	5,081	4,724	4,761	47,652	44,234
Gas oil and fuel oil	38,351	36,615	33,594	352,712	331,989
Lubricants	1,432	1,576	1,391	19,598	18,484
Wax	75	80	60	930	857
Coke	624	614	675	6,724	7,540
Asphalt	831	1,037	589	16,384	13,924
Road oil	239	273	129	6,832	6,378
Still gas (production)	4,102	4,041	3,790	50,224	44,391
Miscellaneous	205	154	219	2,087	2,126
Losses and crude used as fuel	4,812	3,928	4,599	45,950	43,135
Total domestic demand	89,487	82,998	80,388	981,649	920,164
Daily average	2,887	2,767	2,593	2,689	2,521
STOCKS:					
Crude petroleum	314,631	315,558	337,254	314,631	337,254
Natural gasoline	3,698	3,917	3,740	3,698	3,740
Refined products	223,371	225,711	223,356	223,371	223,356
Total all oils	541,700	545,186	564,350	541,700	564,350
Days' supply	166	171	197	178	199

*From Coal Division. †Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce. ‡This figure should be 3,920; corrections in demand will be made in final report.

STOCKS OF CRUDE PETROLEUM BY DISTRICTS AND GRADES

(Thousands of barrels of 42 gallons)

	Dec. 31,	Nov. 30,	Dec. 31,
	1935	1935	1934
At refineries by location:			
East Coast: Domestic	9,724	9,782	10,006
Foreign	2,976	2,203	2,683
Appalachian	1,334	1,458	1,249
Indiana, Illinois, Kentucky, Michigan	3,146	3,187	4,048
Oklahoma, Kansas, and Missouri	4,469	4,642	5,996
Texas: Inland	1,644	1,607	1,708
Gulf Coast: Domestic	11,145	10,727	10,677
Foreign	268	497	496
Louisiana Gulf Coast: Domestic	2,045	2,477	3,424
Foreign	501	353	612
Arkansas and Inland Louisiana	943	1,041	738
Rocky Mountain	12,509	12,521	13,382
California	8,444	8,506	9,080
Total	59,148	59,001	64,099
At refineries by origin:			
Pennsylvania Grade	1,188	1,341	1,104
Other Appalachian (inc. Kentucky)	511	559	624
Lima-N. E. Indiana-Michigan	450	513	392
Illinois-S. W. Indiana	80	84	104
N. Louisiana and Arkansas	1,986	2,237	1,982
West Texas and S. E. New Mexico	5,350	5,024	5,274
East Texas	4,960	*5,757	6,238
Oklahoma, Kansas, N. Texas, etc.	13,493	*13,241	16,610
Gulf Coast	8,462	8,196	7,654
Rocky Mountain	12,479	12,490	13,346
California	8,444	8,506	9,080
Foreign	2,745	3,053	3,791
Total	59,148	59,001	64,099
Pipe line and tank farm:			
Pennsylvania Grade	3,411	3,491	3,760
Other Appalachian (inc. Kentucky)	386	411	554
Lima-N. E. Indiana-Michigan	845	813	992
Illinois-S. W. Indiana	10,888	11,046	11,351
N. Louisiana and Arkansas	7,690	*8,162	7,999
West Texas and S. E. New Mexico	26,159	26,437	26,564
East Texas	16,629	17,133	24,928
Oklahoma, Kansas, N. Texas, etc.	119,391	121,067	125,907
Gulf Coast	17,906	*17,213	11,034
Rocky Mountain	14,772	14,638	14,702
California	27,101	25,809	26,834
Total	245,178	246,220	264,625
Lease (producers') stocks	10,305	10,337	8,530
Total refinable crude in the United States	314,631	315,558	337,254

*Revised.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, DECEMBER, 1935

(Thousands of barrels of 42 gallons)

	Straightrun			Cracked			Nat. gaso.		Gasoline	
		Per cent			Per cent			Per cent		Per cent
	Total	(*)	(†)	Total	(*)	(†)	Total	(†)	Total	(*)
East Coast	3,613	18.4	40.3	3,596	25.4	55.5	270	4.2	6,479	43.8
Appalachian	790	25.1	51.9	699	22.3	46.0	32	2.1	1,521	47.3
Ind., Ill., etc.	2,676	24.7	41.4	3,422	31.7	52.9	369	5.7	6,467	56.4
Okla., Kans., Mo.	2,487	29.1	47.7	2,088	24.4	40.1	637	12.2	5,212	53.5
Texas Inland	1,635	32.6	56.0	849	16.9	29.1	437	14.9	2,921	49.5
Texas Gulf	3,676	19.4	43.6	4,353	22.9	51.7	393	4.7	8,422	42.3
Louisiana Gulf	826	20.8	55.2	647	16.2	43.3	23	1.5	1,496	37.0
Ark. and La. Inland	366	31.4	52.0	288	16.8	41.0	49	7.0	703	38.2
Rocky Mountain	409	28.6	46.1	386	27.0	43.5	92	10.4	887	55.6
California	3,911	22.8	59.6	1,641	9.6	25.0	1,008	15.4	6,560	32.4
Total	19,389	22.8	47.7	17,969	21.2	44.2	3,309	8.1	40,667	44.0

*Per cent of crude run. †Per cent of total gasoline output.

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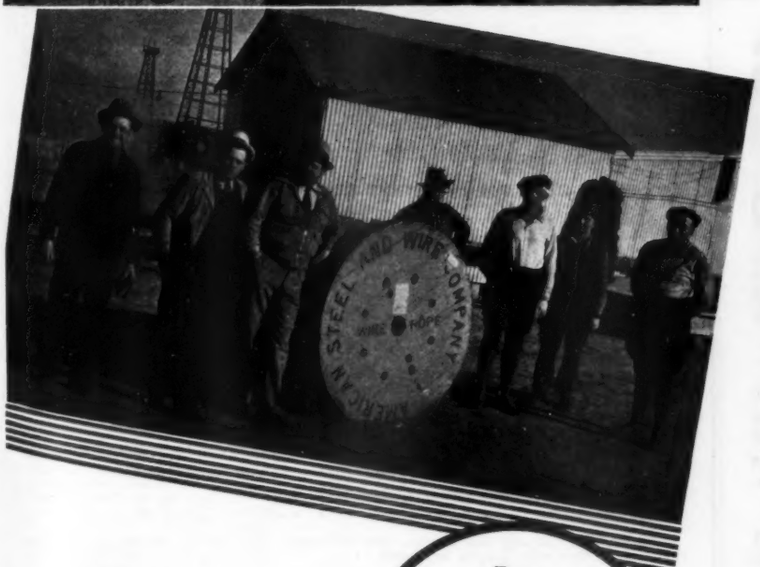

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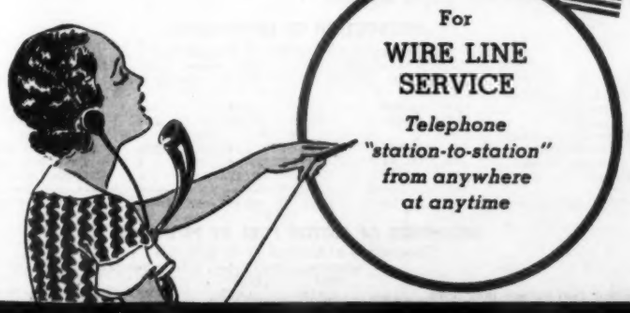

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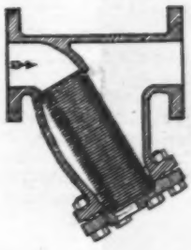

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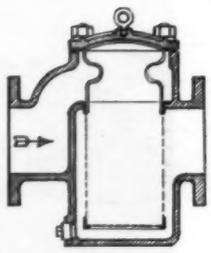

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DAVIS **AUTOMATIC VALVE SPECIALISTS**

STOCKS OF CRUDE PETROLEUM BY STATES

(Thousands of barrels of 42 gallons)

	Location* — December 31, 1935 — At refineries	At tank farms and in pipe lines	On leases	Total	Nov. 30, 1935 Total	Origin† — Dec. 31, 1935 Total	Nov. 30, 1935 Total
Arkansas	659	3,395	260	4,314	4,094	5,916	6,461
California	8,444	27,101	3,399	38,944	37,646	38,944	37,646
Colorado	345	110	30	485	453	551	510
Georgia‡	706	.....	.....	706	625	.....	.....
Illinois	1,101	10,409	120	11,630	11,657	11,052	11,199
Indiana	688	1,958	8	2,654	2,545	44	44
Kansas	1,748	9,958	465	12,171	11,936	5,165	4,893
Kentucky§	488	272	40	801	858	764	836
Louisiana¶	2,830	5,884	385	9,099	9,572	8,803	8,987
Maryland	1,124	.....	.....	1,124	1,056	.....	.....
Massachusetts‖	762	.....	.....	762	880	.....	.....
Michigan	186	453	105	744	649	895	886
Missouri**	174	3,280	.....	3,454	3,455	.....	.....
Montana	205	817	105	1,127	1,121	1,108	1,104
New Jersey	5,711	340	.....	6,051	5,443	.....	.....
New Mexico	13	371	325	709	698	5,573	5,235
New York	1,270	105	18	1,403	1,479	438	462
Ohio	766	6,534	75	7,375	7,466	987	††1,125
Oklahoma	2,547	66,513	1,635	70,695	72,073	94,330	95,832
Pennsylvania	4,308	1,650	100	6,058	6,051	2,433	2,447
Texas	13,057	90,425	2,735	106,217	107,789	106,079	107,937
Utah	194	.....	.....	194	198	.....	.....
West Virginia	60	1,788	140	1,988	1,983	1,752	††1,844
Wyoming‡‡	11,752	13,814	360	25,926	25,831	26,052	25,966
Foreign	.....	.....	.....	.....	.....	3,745	3,053
Total U. S.	59,148	245,178	10,365	314,631	315,558	314,631	315,558

*Segregated by states of location regardless of origin. †Segregated by states of production (origin) regardless of location. ‡Includes Delaware, South Carolina, and Virginia. §Includes Tennessee. ¶Includes Alabama. ‖Includes Rhode Island. **Includes Iowa. ††Revised. ‡‡Includes Nebraska and South Dakota.

MOVEMENT OF CRUDE OIL AND REFINED PRODUCTS TO EASTERN PORTS IN THE UNITED STATES

(Thousands of barrels of 42 gallons)

	December, 1935	November, 1935	December, 1934	Jan.-Dec., 1935	Jan.-Dec., 1934
California to East Coast:					
Gasoline	250	689	570	7,108	8,694
Kerosene	128	81	293	1,189	1,800
Gas oil and fuel oil	79	76	215	877	14,024
Lubricants	6	4	6	78	68
Miscellaneous	2	1	2	517	133
Total	465	851	1,086	9,769	24,719
Gulf to East Coast†:					
Crude	11,686	11,311	(*)	141,193	(*)
Gasoline‡	6,934	7,039	(*)	75,802	(*)
Kerosene	1,917	1,873	(*)	14,491	(*)
Gas oil and fuel oil	7,302	6,028	(*)	62,321	(*)
Lubricants	231	246	(*)	2,191	(*)
Miscellaneous	41	11	(*)	126	(*)
Total	28,111	26,508	(*)	296,124	(*)
Foreign crude to East Coast:					
Colombia	72	105	....	177	2,921
Ecuador	....	....	....	....	79
Mexico	202	113	332	2,296	4,410
Trinidad	....	....	....	117	23
Venezuela	2,547	1,874	2,003	23,276	24,515
Total	2,821	2,092	2,336	25,866	31,948
Foreign crude to Gulf Coast:					
Colombia	....	....	548	3,600	1,273
Mexico	353	76	134	1,108	1,445
Venezuela	162	74	181	1,665	892
Total	515	150	863	6,373	3,610

* Not available. †From Division of Investigations, Department of the Interior. ‡Includes natural gasoline.

RECORD OF WELLS FOR IMPORTANT FIELDS AND DISTRICTS, DECEMBER, 1935*

	Completions — Oil	Gas	Dry	Total initial prod. (bbls.)	Aver. initial prod. (bbls.)
Texas	639	24	190	456,300	710
East Texas	254	...	6	317,500	1,250
Gulf Coast	67	5	28	26,700	400
Panhandle	39	10	4	21,100	540
West Texas	62	2	12	27,200	440
California	50	..	37	21,300	430
Kettleman Hills	2	...	...	900	450
Long Beach	6	...	19	700	120
Oklahoma	104	11	42	105,300	1,010
Pontotoc Co. (Fitts)	30	...	4	32,100	1,070
Louisiana	48	8	15	68,800	1,430
Gulf Coast	20	...	8	12,100	600
Rodessa	12	†1	...	31,100	2,590
Other States	99	100	149	123,100	390
Total United States:					
Dec., 1935	940	143	433	774,800	820
Nov., 1935	1,304	135	421	973,400	750
Dec., 1935	1,051	117	377	770,800	730
Jan.-Dec., 1935	15,108	1,401	4,911	11,769,900	780
Jan.-Dec., 1934	12,512	1,373	4,312	10,746,400	860

* From The Oil and Gas Journal and California office of the American Petroleum Institute. †This well located in Texas.

PRODUCTION OF MOTOR FUEL

(Thousands of barrels of 42 gallons)

	December, 1935 — Total	Daily av.	November, 1935 — Total	Daily av.	Jan.-Dec., 1935	Jan.-Dec., 1934
Refinery gasoline:						
Straightrun	19,389	625	18,826	628	219,583	206,337
Cracked	17,969	580	17,964	599	207,537	182,433
Natural gasoline:						
Production	3,654	118	2,598	120	38,858	36,556
Deduct losses	94	3	105	4	2,341	3,233
Benzol	192	6	178	6	1,877	1,708
Total motor fuel	41,110	1,326	40,461	1,349	465,514	423,801

SHIPMENTS OF MOTOR FUEL BY PIPE LINES

(Thousands of barrels of 42 gallons)

	December, 1935	November, 1935	December, 1934	Jan.-Dec., 1935	Jan.-Dec., 1934
Motor fuel turned into lines	4,469	4,677	3,583	50,984	45,505
Motor fuel delivered from lines	4,208	4,385	3,535	50,198	45,383
Shortage	30	25	*5	292	94
Stocks in lines and working tanks end of month	2,537	2,306	1,343	2,537	1,343

*Overage.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM

(Thousands of barrels of 42 gallons)

Domestic petroleum by fields of origin:	December, 1935 Total	December, 1935 Daily av.	November, 1935* Total	November, 1935* Daily av.	Jan. Dec., 1935	Jan.-Dec., 1934
Appalachian:						
Pennsylvania Grade	2,301	74.2	2,292	76.4	25,778	24,682
Other (inc. Kentucky)	600	19.4	475	15.8	7,168	6,835
Lima-NE Ind.-Mich.	1,444	46.6	1,795	59.8	16,130	12,086
Ill.-SW Ind.	549	17.7	419	14.0	5,549	5,014
Mid-Continent:						
N. La. and Ark.	2,792	90.1	2,249	73.5	20,881	22,208
W. Texas-SE N. Mex.	6,592	212.6	6,676	222.5	75,780	69,694
East Texas	15,695	506.3	15,588	522.9	186,595	196,395
Other (Okla., Kans., N. Tex., etc.)	29,767	960.2	28,771	955.7	355,222	317,947
Gulf Coast	9,235	297.9	9,842	329.6	97,025	81,157
Rocky Mountain	1,626	52.4	1,853	61.8	20,975	17,097
California†	18,221	587.8	17,043	568.1	194,873	165,428
Total demand	88,822	2,865.2	87,002	2,900.1	1,004,976	918,543
Exports	4,098	132.2	4,289	143.0	51,378	41,127
Domestic demand	84,724	2,733.0	82,713	2,757.1	953,598	877,416
Foreign petroleum	2,644	85.3	2,117	70.6	32,701	34,822
Total dom. demand	87,368	2,818.3	84,830	2,827.7	986,299	912,238

*Revised. †Demand less net transfers from crude.

STOCKS HELD BY REFINING COMPANIES, DECEMBER 31, 1935

(Thousands of barrels of 42 gallons)

	Finished gasoline: At refineries	Finished gasoline: Bulk and pipe lines	Unfinished gasoline	Total gasoline	Kerosene	Gas oil and distillate fuel oils
East Coast	4,404	8,954	874	14,232	2,051	4,181
Appalachian	1,236	1,124	322	2,682	224	204
Ind., Ill., Ky., etc.	4,610	3,983	581	9,174	546	1,716
Okla., Kans., Mo.	3,707	1,764	615	6,086	693	989
Texas Inland	1,675	81	225	1,981	186	345
Texas Gulf	5,329	431	1,756	7,516	1,665	3,638
Louisiana Gulf	690	460	214	1,364	578	1,617
Ark. and La. Inland	260	95	30	385	78	101
Rocky Mountain	965	....	85	1,050	127	164
California	8,452	2,427	1,344	12,223	1,767	6,975
Total	31,328	19,319	6,046	56,693	7,915	19,930

	Residual fuel oil	Lubricants	Wax (thous. of pounds): Crude scale	Wax (thous. of pounds): Refined	Wax (thous. of pounds): Total
East Coast	4,282	2,227	17,057	16,010	33,067
Appalachian	278	855	16,677	2,013	18,690
Indiana, Illinois, Kentucky, etc.	2,128	514	12,680	2,480	15,160
Oklahoma, Kansas, Missouri	3,270	562	2,332	809	3,141
Texas Inland	1,807	92	....	102	102
Texas Gulf	7,537	1,553	1,258	20,765	22,023
Louisiana Gulf	2,592	92	598	1,254	1,852
Arkansas and Louisiana Inland	455	34	....	....	....
Rocky Mountain	478	120	19,278	1,362	20,640
California	61,227	975	....	....	....
Total	84,054	7,025	69,880	44,795	114,675

	Coke (tons)	Asphalt (tons)	Road oil	Miscellaneous	Other unfinished	Natural gasoline
East Coast	17,500	127,900	28	46	8,428	212
Appalachian	10,800	16,100	6	36	2,040	3
Ind., Ill., Ky., etc.	59,900	87,700	43	16	5,211	45
Okla., Kans., Mo.	40,700	14,900	156	16	4,873	89
Texas Inland	7,500	9,200	56	2	1,120	15
Texas Gulf	81,500	10,000	17	33	10,306	150
Louisiana Gulf	32,800	41,500	1	4	2,030	5
Ark. and La. Inland	100	27,700	29	1	465	4
Rocky Mountain	65,700	8,600	357	8	1,567	35
California	72,400	61,800	182	58	6,034	1,495
Total	388,900	405,400	875	220	42,074	2,053

Grand total stocks refined products 223,371,000 bbls.

RUNS TO STILLS AND OUTPUT OF REFINERIES, DECEMBER, 1935

(Thousands of barrels of 42 gallons)

INPUT—	Crude runs: Domestic	Crude runs: Foreign	Crude runs: Total	Unfin. rerun (net): Crude gaso.	Unfin. rerun (net): Other	Natural gasoline
East Coast	12,141	2,049	14,190	32	1,049	270
Appalachian	3,150	....	3,150	— 5	3	32
Ind., Ill., Ky., etc.	10,807	....	10,807	116	330	369
Okla., Kans., Mo.	8,555	....	8,555	—169	455	637
Texas Inland	5,023	....	5,023	27	21	437
Texas Gulf	18,538	460	18,998	—173	466	393
Louisiana Gulf	3,840	136	3,976	44	—191	22
Ark. and La. Inland	1,712	....	1,712	— 14	—153	49
Rocky Mountain	1,429	....	1,429	15	81	92
California	17,152	....	17,152	—168	—265	*1,008
Total	82,347	2,645	84,992	—295	1,796	3,309

OUTPUT—	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Lubricants	Wax (thous. of lbs.)
East Coast	6,479	750	1,678	4,552	736	20,160
Appalachian	1,521	216	227	357	468	7,560
Ind., Ill., Ky., etc.	6,467	397	1,205	1,876	288	1,120
Okla., Kans., Mo.	5,212	537	795	1,789	304	2,800
Texas Inland	2,921	227	421	1,562	12	280
Texas Gulf	8,422	1,570	2,518	5,401	393	3,360
Louisiana Gulf	1,495	363	599	1,045	75	2,520
Ark. and La. Inland	703	94	103	511	21	....
Rocky Mountain	887	52	86	533	34	2,520
California	6,560	418	2,253	7,579	153	....
Total	40,667	4,624	9,885	25,005	2,484	40,320

OUTPUT—Cont'd.	Coke (tons)	Asphalt (tons)	Road oil	Still gas	Miscellaneous	Shortage
East Coast	2,000	74,000	1	735	51	70
Appalachian	2,200	8,700	....	168	23	114
Ind., Ill., Ky., etc.	52,000	51,100	27	805	14	— 2
Okla., Kans., Mo.	20,000	6,200	23	431	10	233
Texas Inland	3,200	1,400	5	117	6	212
Texas Gulf	24,200	17,100	7	1,158	12	— 24
Louisiana Gulf	2,400	15,300	1	135	1	32
Ark. and La. Inland	200	10,200	28	40	7	30
Rocky Mountain	—600	3,400	39	81	10	70
California	....	15,300	115	432	34	99
Total	105,600	202,700	246	4,102	168	834

*Includes 80,000 bbls. run through pipe lines.

CRACKED OPERATIONS

	Bbls.
Fresh cracking stock charged to stills:	
Crude	5,620,000
Other oils	39,451,000
Gasoline produced by cracking	17,969,000
Fuel oil produced by cracking	17,864,000

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HOW IT'S SET:

Decide at what pressure you want the valve to relieve. Then consult the pressure guide on valve name plate to see what size nail shears at that pressure. Check size in nail gauge on name plate. Insert nail, as shown here.

HOW IT WORKS:

If pump pressure against valve piston reaches set point the nail shears, releasing piston which moves entirely out of path of flow through side outlet. Valve design positively prevents any damage except to sheared nail.

High pressure type (shown here) for Slush Pump service built in 1000 to 2750-lb. range. Low pressure type for Gathering Pump or similar service built in 250 to 1000-lb. range. Full details and prices are yours for the asking.

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PROBLEMS FROM READERS

Edited by T. F. Smiley

Conditions in Each Field Determine Choice Between Rotary and Cable

I am not clear concerning the considerations that lead to use of rotary drilling in some fields and cable-tool drilling in others. In the eastern fields, so far as I can ascertain, the drilling is still done entirely by cable. Is this because drillers in these early eastern fields were brought up on the cable-tool method and don't like to abandon it or because the rotary would not be suitable in eastern areas?—E. G. R.

Conditions in each individual field must determine whether the rotary or the cable-tool method should be used. Each has its advantages and its disadvantages. The cable method is used in the Appalachian fields because they are relatively shallow and the formations usually are hard, slaty shales and well-indurated sandstones. In hard formations at shallow depths cable tools are used by most operators in certain of the Rocky Mountain and Texas fields also. In contrast, most of the California, Gulf Coast and Mid-Continent development has been with the rotary method.

"During the earlier years of rotary drilling," L. C. Uren says in his work on oil-field development, "there was considerable distrust of this method, and arguments were advanced against its use chiefly by drillers who disliked a process differing so radically from that which had been used since the early days. The rotary method was originally thought to be chiefly applicable to certain peculiar conditions prevalent in the fields in which it was first successfully applied, but, as its use was extended to other fields, the rotary was eventually accepted as a real competitor of the older method. Indeed, within recent years, wherever deep drilling has been necessary, the rotary has been the preferred method, and in many of our recently discovered fields it has been used exclusively.

"When the two methods are impartially compared, it is at once evident that the rotary has certain definite advantages that make it preferable under ordinary conditions. It is more rapid, and because of this it operates at a lower cost per foot and secures production within a shorter space of time. By its use, strings of large-diameter pipe may be carried to great depths with minimum loss of working diameter and at a considerable saving in the cost of casing. It has been found possible to drill through great depths of unconsolidated sands and shales with the rotary under conditions that are practically prohibitive for the cable tools.

"Use of the circulating fluid provides a means of controlling high gas and water pressures often encountered in drilling for oil and makes possible the carrying of open hole to great depths so that the well does not have to be cased until the particular size of the hole being drilled is completed. Furthermore, there is greater freedom of the casing in the well, and the landing depths and water shutoffs can be more definitely planned and the work carried forward with greater certainty of completion according to predetermined schedules.

"Probably the greatest disadvantage that can be urged against the use of the rotary is the difficulty encountered in determining the character of the formations penetrated. It is essential that accurate data be secured for the well log, and in many cases the drilling returns brought to the surface in the sludge with the rotary equipment are so finely pulverized and contaminated with mud that they cannot be definitely classified. The color of the sludge, the presence or absence of sand and grit, effect of the formation on the bit and the manner in which the drill stem, table and mud pump behave, are about all that the driller has to work on in securing data for the log. With the sandstones and harder rocks it is possible to secure a fairly good sample which can be washed free of mud from the mud ditch, but the presence or absence of argillaceous material in the formation can only be surmised since it is usually so finely ground that it is inseparable from the circulating fluid when it reaches the surface. The disadvantage of the rotary in this respect has been largely offset during recent years by the more general use of rotary core-drilling devices which give the driller an actual sample of the material.

"Another disadvantage frequently urged against the rotary is that the circulating fluid tends to seal off the sands encountered, commercial oil sands being sometimes mudded off so effectively that the operator drills through them without becoming aware of the presence of oil."

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be referred to persons capable of answering authoritatively. The names of those writing for information will be held confidential, initials only being published. This department cannot undertake to answer questions involving royalty or other investments, patents or intricate formulas or questions which should be submitted to consulting engineers, geologists or lawyers.

WHY THEY CALLED IT *Medicine Bow*

The Medicine Bow oil field, opened in Carbon County, Wyoming, in 1935, is on a wind-swept plateau rising 500 feet above the Medicine Bow River, which crosses its southern tip. The field took its name from a ranch settlement of 300 population, 10 miles north on the Union Pacific Railroad. The name Medicine Bow is of Indian origin, first applied to the mountains from which the village got its name. It is recorded: "For centuries some of the tribes annually visited the mountains to procure a certain kind of wood for their bows. The wood from these trees bent readily and made good bows. In Indian talk anything that serves its purpose well is 'good medicine,' and according to Indian legends the mountains and streams where this timber grew became known as places where 'good medicine bows' were found."

Classifying Sand Grains by Size Is Not So Complicated as It Looks

Perhaps you can tell me whether there is any such thing as a standard or guide of some sort to enable a person to get a fairly correct idea of the size of grains of sand when they are referred to simply as "very coarse," "medium," and so on. Unless you have a standard such definitions do not mean much. To me they are confusing. It seems to me there should be a standard for indicating the sizes of sand grains.—R. E. L.

It is easy to understand why you are confused in attempting to visualize the relative size of sand grains and to assist you in this classification the following table of "Grain Terms" is quoted. It was prepared by C. K. Wentworth in 1922 and published in the Journal of Geology to give some value to grain sizes and conform to the common usage among geologists and at the same time fit the standard screen scale used in mechanical analysis.

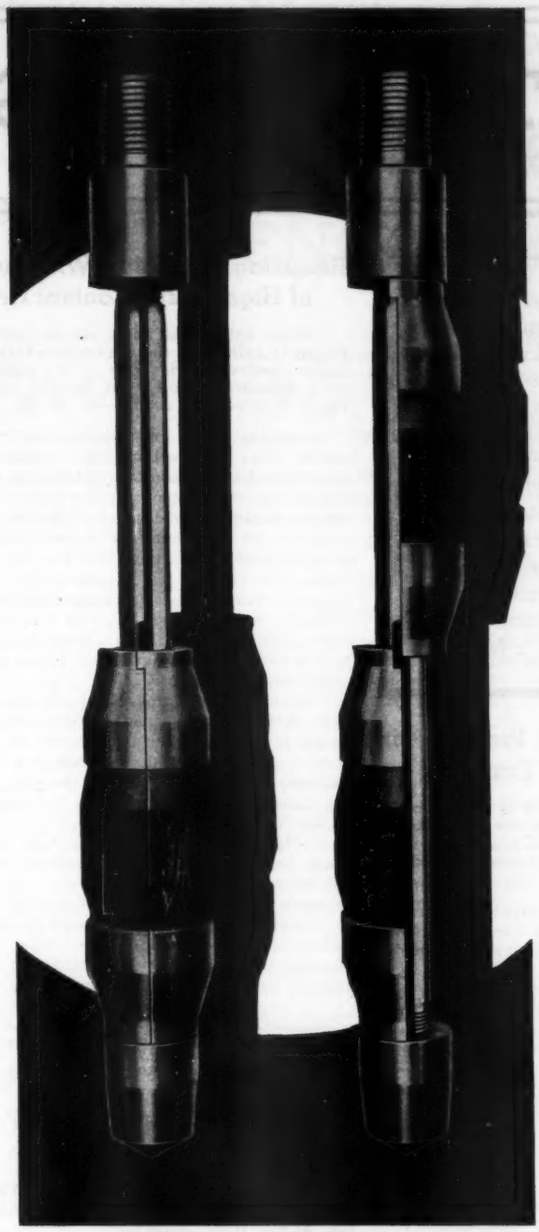
	Limiting dimensions			
The pieces—	Millimeters			Decimals of inch
Clay particle	Finer than 1/256	mm.		.00015 inch
Silt particle	Between 1/256	and 1/16	mm.	.0024 inch
Very fine sand	Between 1/16	and 1/8	mm.	.0049 inch
Fine sand grain	Between 1/8	and 1/4	mm.	.0098 inch
Med. sand grain	Between 1/4	and 1/2	mm.	.0196 inch
Coarse sand grain	Between 1/2	and 1	mm.	.03937 inch
Very coarse sand	Between 1	and 2	mm.	.07874 inch

This may seem complicated because it is necessary to express these terms in fractions of a millimeter or in decimals of an inch, but if it is borne in mind that the thickness of the sheet of paper upon which this item is printed is about .0024 inch or 1/16 mm., the size of silt particles, it will not be hard to estimate the diameter of fine sand grains, which are about equivalent to three sheets of this paper in thickness. Because of the variation in paper thickness it is not correct to say two sheets equal 1/8 mm. and four sheets are the equivalent of 1/2 mm. because the error entering into such a method of making comparisons will be appreciable, but it does happen the paper upon which this page is printed does measure very close to the 1/4 mm. in thickness.

Ascertaining Position of the Conroe Sand in San Jacinto County Area

If I encounter the Conroe sand in San Jacinto County at 4,700 feet and plan to drill another well 3 miles south and 17 miles west, how do I figure the depth at which the Conroe will be reached in the second well? Some figure the strike to be N. 40 east and the dip to the southeast at the rate of one degree to the mile in this locality. Perhaps you can put me straight on this point.—A. T. W.

This department regrets that it cannot refer you to a formula by which you might solve your problem concerning the position of the Conroe sand in the San Jacinto County area. It is suggested that you obtain logs of wells in that area and reduce this information to sea level datum measurements. If you will then correlate the logs you will get some idea of the position of the various formations. The unknown factor in making predictions is whether such formations thin or thicken as they leave one well and are traced towards some other point. You might consult some of the works on petroleum geology and get some desirable information that way. Dorsey Hager's book particularly is recommended as it is well suited for preliminary study. However, the only practical way you can get comprehensive and trustworthy advice on your problem is to consult a geologist or geophysicist who has worked that area.



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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Solvent Refining Agents Toxic and Related Properties—Aldehydes

This is the tenth of a series of brief articles relating to the physiological and toxic properties of the substances used in the solvent extraction methods for the refining of lubricating oils. These have been discussed—benzene, phenol, chlorex, cresol, nitrobenzene furfural, sulfur dioxide, aniline and ketones.—Editor.

Acrolein or acrylic aldehyde. Formula CH_2 . CH.CHO; a colorless liquid with an irritating odor, which on exposure to air is gradually oxidized to acrylic acid; specific gravity 0.8389; melting point —126° F.; boiling point 126° F.; soluble in water 33 per cent, soluble in alcohol and ether; commonly met with as the irritating substance in the fumes from burning fats and oils, especially noticeable in the exhaust from the automobile engine due to the burning of the oil in the cylinders.

The vapors of acrolein are so heavy, irritating and toxic that it was one of the gases under consideration by the Germans for use in gas warfare. It is very irritating to the mucous membranes, and while it is possible to inhale it, the instinctive impulse for one exposed to it is to hold his breath. The first symptoms, after irritation, includes dizziness, pressure in the head and stomach, distressing catarrh and pain.

It primarily affects the upper respiratory tract in the relatively low concentrations ordinarily inhaled but in large quantities induces edema of the lungs. Animals exposed to 1.5 grams of acrolein for two hours developed irritation of the lungs with edema. All severe cases terminate fatally.

Crotonic aldehyde. Formula $CH_3.CH:CH.CHO$; a colorless liquid, having a pungent odor, which turns yellow on exposure; specific gravity 0.8593; melting point —103° F.; boiling point 219° F.; slightly soluble in water, soluble in gasoline, benzene and other organic solvents.

The physiological and toxic properties are similar to those of acrolein.

References: Iwanoff, Arch. f. Hyg., 73, 307, 1911. Chem. Warfare Service, Cir. 15, 1918.

Equivalents for Changing the U. S. Volumes to British Units

Will you kindly give us the official or standard equivalent gallons to tons for the several petroleum products imported into England?—T. E. G.

The Imperial Institute reports in the Mineral Industry of the British Empire and Foreign Countries Statistical Summary the gallons per long ton as indicated in the table.

PETROLEUM AND ALLIED PRODUCTS

(Imperial gallons to long ton)

Motor spirit	305
Kerosene	275
Gas oil	260
Diesel oil	256
Lubricating oil	250
Crude petroleum	245
Fuel oil	240

U. S. gallon = 1.2 British gallons
U. S. shipping ton = 40 cu. ft.
British shipping ton = 42 cu. ft.

Crude petroleum (35 Imperial gallons to the barrel) is converted at the following rates of barrels to the long ton: Mexico, 6.6; Formosa, 7; Colombia, 7.1; Japan, 7.2; Trinidad, 7.3; India and the United States, 7.4, and Canada, 7.9.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered in these columns.

Analyses of Crude Oil Produced in Ritz-Canton Pool, Kansas

If you have it, we should be glad to see the analyses of the crude oil from the Ritz-Canton pool in McPherson County, Kansas. We want an analyses showing the products obtained.—E. H. S.

There are two producing formations in the Ritz-Canton field, the Mississippi lime (Chat) and the Viola lime. These oils are distinguished in the analyses here shown:

	Chat Oil		Viola Lime Oil	
Grav. 37.4 A.P.I.			36.8	
Pourpoint below 5° F.			Below 5° F.	
Color, brownish black			Brownish black	
Sulfur 0.5%			0.19%	
Say. visc. @ 77° F., 55			56	
		Per cent		Per cent
Gasoline		32.8		26.1
Grav. 64.5			61.0	
Kerosene		9.0		18.9
Grav. 44.2			44.5	
Gas oil		13.0		11.7
Grav. 36.6			37.6	
Non vis. Lube. Dist.		9.1		9.6
Grav. 32.8/28.8			35.8/30.2	
Visc. @ 100° F., 50/100			50/100	
Medm. Lube Dist.		7.0		5.7
Grav. 28.8/25.7			30.2/27.1	
Visc. @ 100° F., 100/200			100/200	
Viscous Lube Dist.		2.0		
Grav. 25.7/24.9				
Visc. @ 100° F. above 200				
Residuum		26.0		26.6
Grav. 14.8			15.7	

These analyses are from U. S. Bureau of Mines, R. 1, 3297, by C. J. Wilhelm and Ludwig Schmidt.

Furfural, a Selective Solvent

The explanation following should be inserted in the article discussing "The Value of Furfural as a Solvent Agent for Refining Coastal Oils, issue of January 30, 1936," page 71.—Editor.

The second paragraph in this article seems to have been misleading, and may have led some to conclude that there is actual chemical combination of furfural with the petroleum hydrocarbons. This is not so; the action under the conditions appears to be entirely physical. It is suggested that the fact of a 99.97 per cent recovery of the solvent would preclude the possibility of the combination with any substantial part of the petroleum hydrocarbons.

There is no evidence that furfural is unstable under the temperature conditions existing in the solvent refining of lubricating oils. The refining value of this solvent is due entirely to its selective solvent action.

Reducing Corrosion With Ammonia of High Sulfur Content Crudes

When anhydrous ammonia is used in distillation to minimize the corrosive effects of high sulfur content crudes how is the amount necessary determined and what method of measurement is generally used?—W. R. N.

Ammonia is not extensively used for removing sulfur from high sulfur oils because there are other alkaline materials available at lower cost which readily combine with the sulfur. The alkaline treatment for reduction of the sulfur content of crude oils is recommended when there are large quantities of hydrogen sulfide present. Ammonia cannot be used to an advantage except at low temperatures because the ammonium sulfides decompose, in many reactions with deposition of sulfur. Alkaline washes of the crude oil at relatively low temperatures have been found to be quite satisfactory.

The use of anhydrous ammonia for control of hydrochloric acid is something different. The ammonia is introduced into the tower, or where the stream enters the condenser coils and the control confined to the water passing through the receiving house by testing with an indicator for pH value.

In the scale of pH values, 7 is the neutral point, and pH values above 7, indicate an increasing order of alkalinity, while pH values below 7 indicate an increasing order of acidity.

Colorimetric methods are used in making pH determinations which depend upon the color changes produced by various indicators in solutions of different degrees of acidity or alkalinity.

INDICATORS FOR pH RANGE WITH AMMONIA

Indicator—	pH range	Color change:
Cresol red	7.2-8.8	Yellow to red
Neutral red	6.8-8.0	Yellow to red
Brom thymol blue	6.0-7.6	Straw yellow to deep blue
Methyl red	4.4-6.0	Red to yellow
Brom phenol blue	3.0-4.6	Yellow to blue
Methyl violet 2	1.8-3.2	Blue to violet
Meta cresol purple	1.2-2.8	Red to yellow
Acid cresol red	0.2-1.8	Red to yellow

E. R. Woodward in the article in The Oil and Gas Journal, Anhydrous Ammonia Used in Refining, makes these comments:

If the aqueous portion of the distillate reacts acidic to Methyl red or any of the indicators listed below it, there is strong probability of corrosive action. If only the indicators far down in the list react acidic, a greater hydrogen ion concentration is indicated and the probability of corrosion is increased. Brom thymol blue and neutral red indicate the intermediate zone. On passing through this zone toward the alkaline side the magnitude of acidic corrosion is greatly reduced. Cresol red indicates a definitely alkaline condition and greatly reduced corrosion.

The experience over the past four years of the oil refineries is that practical pH values to use are as follows:

(a) With admiralty metal tubes, pH 7 to 7.3
(b) With steel tubes, pH 7 to 7.6.

When the aqueous portion of the distillate turns neutral red very definitely to red and turns cresol red only partially to red, the pH is approximately in the desirable range for steel. For admiralty metal the cresol red should not be turned appreciably to red. In this connection we should mention that ammonium chloride solution hydrolizes to give a definitely acidic reaction and that an amount of ammonia more than theoretically equivalent to the hydrochloric acid must be used to obtain a neutral or alkaline reaction and satisfactory reduction of corrosion.

Reference: E. R. Woodward, The Oil and Gas Journal, September 13, 1934, page 33.

West and North Texas

By
L. E. BREDBERG

YOAKUM COUNTY TEST HAS ENCOURAGING SIGNS OF OIL

FORT WORTH, Tex., Mar. 3.—Attention in the West Texas district was riveted on the Cascade Petroleum Corp. and Honolulu Oil Corp. No. 1 Bennett, wildcat test in section 678, Block D, J. H. Gibson Survey, in southeast Yoakum County in the past week as the companies swabbed and deepened the test which has been shut down since its strike last September when litigation held up testing.

When the swab was run in the hole it was found to have 4,500 feet of oil standing in it. About 300 feet of oil was swabbed from the top of the fluid column and the well then flowed three times, producing 70 bbls. of oil and leaving some 2,000 feet of oil in the hole. Tools were run in the hole to clean out 75 feet of cavings preparatory to deepening from 5,090 feet, total depth. It has since been drilled to 5,102 feet and reports from the well give the news that oil was rising at the rate of 1 bbl. per hour after deepening. It will no doubt be carried deeper, but if it does not show signs of making a substantial natural producer it will probably be given a shot.

The well is located 10 miles southeast of the county seat, Plains, and about 40 miles east of the Hobbs, New Mexico field, and is destined to open a vast area to wildcatting in the northern tier of West Texas counties.

Another Interesting Wildcat

The other wildcat of interest in the district, and one which is showing probabilities of opening another pool for West Texas, is that of the Maverick Oil Co. on the Jim Rice lands in southeastern Concho County. It logged an oil sand from 1,835-42 feet, shutting down at the latter depth to make a test. It was then deepened 4 feet and later carried to 1,850 feet yielding only a few barrels of oil and swabbing dry. It is to be deepened to the Ellenberger, its original objective, but in case it does not prove a commercial producer from that formation it will be plugged back and the upper sand streaks shot. It previously looked good for at least a 25-bbl. pumper at 1,842 feet, and has had the best showing yet encountered in the county, although one test, Mintex Oil Co. No. 1 Waring, southwest of Eden, pumped 5 bbls. per day when it was completed several years ago. The pay sand in the new strike is believed to be the Strawn, a member of the Pennsylvanian. Location falls in section 18, B. Vaughn Survey, 4 miles northwest of Melvin and about 14 miles east of Eden. A second test for the area is to be drilled by W. C. Nelson of San Antonio, on the Rice farm, about one-half mile to the northwest of the strike.

Last week this column carried the report that the Texas Co. No. 1 Daugherty, located in section 2, Block 74, P.S.L. Survey, about 1 mile west of the Scarborough pool in northern Winkler County, appeared as a dry hole when it struck a hole full of water at 3,300 feet. However, this week it was plugged back to 3,240 feet and flowed 40 bbls. of oil in 10 hours, proving an extension to that pool on the west, with chances that it may help prove a connecting link between that pool and the Sayre-Howe field to the south.

Extension Surprise

Jamison, Pollard and Foster No. 1 Mrs. G. B. Triplett, after being abandoned by the owners at total depth of 2,160 feet, and tools moved off to another location, filled with 41 gravity oil and has been slopping over the casing at the rate of 5 or 6 bbls. per day during the week. It is located in section 199, James Goocher Survey, 1 mile northwest of the Hawley field in Jones County, and the operators are now moving tools back over the hole to try to complete as a commercial producer.

Hawley Prorated

The Hawley pool in Jones County was placed on a proration basis with wells in the field granted a top allowable of 150 bbls. per day. The pool was formerly producing around 1,925 bbls. per day, more oil than the local refineries could handle. Under the new setup it will be allowed to produce only 1,447 bbls., or near the refinery demands in the area.

Deep Abandonment

John I. Moore, Loffland Brothers and others unitized Ordovician test on the L. S. McDowell ranch, in section 22, Block 34, Township 2s, T.&P. Survey, Glasscock County, located on a 5,970-acre block and about 1 mile west of Permian lime production, is being abandoned at a total depth of 10,906 feet after striking hot sulfur water last week in what is believed to be the Ellenberger lime, a member of the Ordovician. This is the third deepest test drilled in the Permian Basin and although it made some 200 bbls. of oil from the Pennsylvanian when shut down at 10,115 feet, it is not to be plugged back in an effort to produce from that formation.

Interesting Wildcat

The Stanolind Oil & Gas Co. has staked location for a test in the NE cor. of section 14, Block 43, Township 2s, T.&P. Survey, for a test that might help prove a producing link between the recently opened pool 3 miles northwest of Odessa, and a well 3 miles to the north on the Johnson ranch. This location also falls 2½ miles north of the Addis pool, and 1 mile northwest of the Barnsdall Oil Co. and others No. 1 Foster, discovery well in the SE cor. of section 13.

Locations and Completions

There were 32 locations staked in the district this week with 18 tests completed, one of which was a dry hole drilled in Borden County by C. E. Hyde of Fort Worth. Location of this test was on the G. M. Dodge estate, in section 28, Block 33, Township 4n, T.&P. Survey. It developed a hole full of sulfur water at 3,800 feet, plugging orders being issued at 3,805 feet.

Ranger and Wichita Falls

Roeser & Pendleton, Inc., of Fort Worth, and Humble Oil & Refining Co. have staked location for a wildcat test in western Shackelford County. Same falls on the Dawson & Conway lands in section 27, C. C. Casner Survey, 8 miles northeast of the Luederes pool in Jones County.

Second Sand

The recently discovered shallow pool, 2½ miles southeast of Gainesville, in which two producers are making 15 bbls. per day on the pump, with about 8 bbls. of salt water, at around 1,600 feet, has a west offset test to the discovery well, drilled by Martin and others, now Burke Royalty Co. It is showing for a producer from a deeper sand picked up below 1,800 feet, depth not being given out by the operators. This second sand is more porous and appears as a better producing sand than the upper sand, and the Burke Royalty Co. No. 1 Jones, now shut down around 1,900 feet with casing cemented in the hole, will be closely watched when completed this week. The first two small producers completed in the shallower pay may be drilled deeper if the second sand produces as expected.

A test three-quarters of a mile to the north of the producing wells was abandoned, but another interesting test is drilling three locations to the south of the discovery well and is showing for a producer at 1,594 feet. Seven other tests are drilling in the area in a radius of 2½ or 3 miles, and the striking of the second sand in the pool lends more hope to the drillers of those outpost tests. One well, drilling on the eastern outskirts of Gainesville, may start town lot drilling if it makes a producer.

Hamilton Gasser

Seaboard Oil Co. No. 1 T. K. Rea, wildcat test in Hamilton County, 14 miles northwest of Hamilton, county seat, which logged three volumes of gas last week from what was believed to be the Marble Falls lime, developed a reported 9,000,000 feet of gas this week in deepening 4 feet to 2,424 feet. It is now blowing in hopes of the gas diminishing sufficiently to permit tools to be run in the hole for deeper drilling. Casing was set at 2,420 feet. Top of the Marble Falls was reported at 2,376 feet.

There were 44 locations staked in the Wichita Falls district during the week with about the same number of completions reported. One of the extreme wildcats trying for production, Burns Oil Co. No. 1 J. A. Harman, in the J. M. Moses Survey, Denton County, was given up as dry at total depth of 2,327 feet. This leaves one test drilling, one rigged up and shut down and another shut down in this county, one of the counties in the district to receive renewed attention this year as a result of the deep test of Olson Brothers Drilling Co. starting up in northern Grayson County, which drew attention to it and adjacent counties.

Panhandle District

Sixteen locations were staked and the same number of tests were completed in the Panhandle district this week. Of chief interest to operators was the abandonment of Phillips Petroleum Co. No. 1 Hughes, in section 4, Block H, H. Stephens Survey, in Hall County. Total depth of the hole is 8,017 feet. A slight showing of oil was logged at 5,421-22 feet. Elevation is 2,225 feet. It tested Ellenberger lime, member of the Ordovician in which production was sought, but no encouragement was given the operators by showings in that section. This is the deepest hole ever sunk in the Panhandle.

Hutchinson Extension

Harry Stekoll No. 1 Dial, located in section 36, Block M-23, T.C.R.R. Survey, extended the dolomite producing Stekoll pool 1¼ miles to the west this week when it came in good for 400 bbls. per day at total depth of 3,066 feet. It was given a 200-quart shot at 2,980-3,050 feet before completing, swabbing 210 bbls. of 44 gravity oil in 11 hours following the shot. Elevation is 3,091 feet. This extension well has called for an immediate offset by Stekoll and will start other drilling in the extended area.

Gas Waste Curtailed

Injunctions against the Railroad Commission of Texas which allowed the stripping of gas in the Panhandle district, expired March 1 thereby putting to an end the extravagant waste of natural gas amounting to nearly 1,000,000,000 feet per day. Several other injunctions expired previously, the last two injunctions vacated being held by the Shamrock Oil & Gas Co. and Huber Corp.

The gas conservation law, enacted by the forty-fourth legislature of Texas in January, 1935, now goes back into force in so far as prohibiting the waste of gas is concerned. Attacks have been launched on that part of the bill requiring ratable tak-

ing of gas from all wells by the major pipe line companies serving the district. These suits will be carried to the U. S. Supreme Court.

PANHANDLE COMPLETIONS

Completions in the Panhandle fields, with their top of sand and total depth records and initial production, are as follows:

Carson County

Texoma Natural Gas Co. No. 1-M McLaughlin, 2,330-2,567 feet, 56,870,000 feet of gas.

Gray County

British American Production Corp. No. 10 Phillips, 3,180-3,285 feet, shot; 648 bbls., pumping; No. 6 Smith, 3,160-3,225 feet, shot, 618 bbls. pumping. Empire Gas & Fuel Co. No. 4-B Archer, 3,175-3,227 feet, shot, 490 bbls., pumping; No. 2 Miers, 3,185-3,307 feet, 558 bbls. pumping. Kewanee Oil & Gas Co. No. 8 Arnold, 3,195-3,270 feet, shot, 426 bbls., pumping.

Magnolia Petroleum Co. No. 15 fee, total depth 3,011 feet, shot, 62 bbls., pumping; No. 2 Haggard, 3,250-3,291 feet, shot, 390 bbls., pumping. Taylor Oil Co. No. 4 Taylor, total depth 3,160 feet, plugged back to 2,965 feet, shot, 170 bbls. pumping. Vulcan Oil Corp. No. 1 Bailey, dry and abandoned at 3,028 feet.

Hall County

Phillips Petroleum Co. No. 1 Hughes, dry and abandoned at 8,017 feet. Show of gas at 4,955-60, show of oil at 5,421-22 feet; elevation 2,225 feet.

Hutchinson County

Huber Petroleum Co. No. 3 Weatherby, 2,535-2,690 feet, 12,013,000 feet of gas. Stanolind Oil & Gas Co. No. 1 Terry, 2,873-2,930 feet, shot, 664 bbls. pumping.

Potter County

Texas Interstate Pipe Line Co. No. 1 McBride, 1,775-1,968 feet, 48,700,000 feet of gas.

Wheeler County

Murchison & Fain No. 5 Binkley, 2,452-63 feet, 639 bbls. Palmer and others No. 1 Fuller, dry and abandoned at 1,645 feet. Elevation 2,480 feet.

NORTH TEXAS COMPLETIONS

Following are the completed wells of the week in the North Texas division, with their top of sand and total depth records and initial production:

Baylor County

Consolidated Oil Co. No. 1 W. H. Portwood H, total depth 1,485 feet, dry and abandoned.

Clay County

H. T. Merrill No. 1 M. Weiss, 773-775 feet, 12 bbls.

Denton County

Burns Oil Co. No. 1 J. A. Harman, total depth 2,327 feet, dry and abandoned.

Jack County

Iron Mountain Oil Co. No. 1 J. W. Bridwell, 2,968-2,996 feet, 610 bbls.

Cooke County

Harrison-Dillard No. 2 R. W. Trew, 1,044-1,147 feet, 80 bbls. Hester Oil Co. No. 1 R. W. Trew A, 1,100-1,125 feet, 200 bbls. F. W. Merrick, Inc., No. 20 A. Knabe, 780-816 feet, 10 bbls.; No. 21 A. Knabe, 751-780 feet, 10 bbls.; No. 22 A. Knabe, 775-812 feet, 12 bbls.; No. 23 A. Knabe, 741-778 feet, 6 bbls.; No. 1 F. L. McCollum, dry and abandoned at 1,378 feet; No. 8 C. A. Stelzer, 782-827 feet, 40 bbls. Murray Investment Co. No. 4 Lee Rohmer, 948-952 feet, 65 bbls.

Montague County

Boardman Brothers No. 1 I. Keck, 840-884 feet, 15 bbls. The Texas Co. No. 7 Cunningham A, 905-917 feet, 25 bbls.

Wichita County

Boardman & Associates No. 1 J. L. Jackson, total depth 722 feet, dry and abandoned. P. H. Flynn No. 1 W. L. Scott, total depth 2,035 feet, dry and abandoned. Magnolia Petroleum Co. No. 6 W. A. Martin, total depth 1,850 feet, dry and abandoned. J. C. Jennings No. 1 Grace Jennings B, total depth 1,917 feet, dry and abandoned.

Rathke Oil Co. No. 9 Burnett, 347-358 feet, 4 bbls.; No. 10 Burnett, total depth 373 feet, dry and abandoned. The Texas Co. No. 71 W. B. Honaker, 1,407-1,060 feet, 15 bbls. A. B. Wharton, Jr., No. 4 Waggoner B, 1,985-2,004 feet, 280 bbls. Waggoner Refining Co. No. 4 Waggoner AA, 774-783 feet, 55 bbls.

Wilbarger County

Deep Oil Development Co. No. 1 W. T. Waggoner, 1,856-1,875½ feet, 35 bbls. Hegralle Oil Co. No. 1 W. T. Waggoner B, total depth 1,904 feet, dry and abandoned. King Royalty Co. No. 1 Waggoner N, 1,550-1,552 feet, 295 bbls. John O'Neil No. 5 Waggoner B, 535-540 feet, 4 bbls. Lawson & Leavell No. 1 W. T. Waggoner, total depth 2,203 feet, dry and abandoned .

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Mar. 2. — Poor weather conditions again held the Central West fields to very few completions. No completions were reported from the Kentucky or Indiana fields and the Ohio fields had but three.

In Tuscarawas County, sections 2-3, Sandy Township, John Ceckler property, Status Development Co. No. 1, which had a fair showing of gas in the top of the Clinton, was drilled through the sand and completed as a gas well.

Ohio Fuel Gas Co. No. 2 Shopbell, section 20, Orange Township, Ashland County, was also a good gas well. In the same county in section 17, Jackson Township, a location has been staked for Ohio Fuel Gas Co. No. 1 A. J. Talbot.

In Holmes County, Monroe Township, section 25, Ohio Fuel Gas Co. No. 1 L. Alexander was a dry hole with a total depth of 3,457 feet. Same county and township, section 18, a rig is being moved on L. P. Pyers property for Ohio Fuel Gas Co. No. 1.

Wiser Oil Co. No. 1 Shaffer, section 5, Pike Township, Stark County, has a small showing of gas but it is going to be plugged. In section 8, Jackson Township, Stark County, East Ohio Gas Co. No. 1 F. and E. Kiko had a good showing of gas and at the present time is being tested for water. In the same county, Perry Township, section 2, White & Lyons are moving tools on the Jacob Hess farm for their No. 2. In section 7, Plain Township, M. Surbe farm, Fulton Oil & Gas Co. No. 1 is having trouble with drive pipe.

In Harrison County, Washington Township, section 2, on the Joe Green property, Pfeiffer & Co. No. 1, which had a small showing of oil and gas, has been plugged.

Ohio Fuel Gas Co. No. 2 Snider, section 9, Reading Township, Perry County, has been drilled through the Clinton with a small showing of gas and is being drilled deeper. In the same county, section 31, Madison Township, Mid-East Gas Co. No. 1 John Melick has a rig up.

In Fairfield County, section 1, Greenfield Township, City Natural Gas Works No. 2 Mondhank & Bougher has a small showing of gas and is being drilled deeper.

Richland County, Worthington Township, section 25, on the W. C. Harris farm, Ohio Fuel Gas Co. No. 2 has a rig on location. The same company is also moving a rig on the W. W. Maramore property in section 21, Benton Township, Hocking County.

Upham Gas Co. is building a rig on the Alonzo Spurgeon property in Tiverton Township, Lot 19, Coshocton County.

Vocational Training

Reallocation of special text subjects will be considered by the Topical Committee on Vocational Training of the American Petroleum Institute, Division of Production, at a meeting Friday, March 6, in the Dallas Gas Co. Building at Dallas, Tex.

W. H. Meier, Atlantic Oil Producing Co., Dallas, is chairman of the subcommittee on reallocation of special text subjects, which will present a report showing that oil field motor vehicle transportation and blueprint reading have been added to the general series of courses of instruction now available to petroleum employes.

Other subjects of study in the general series include internal combustion engines, steam power, surface pumps, compressors, electricity, story of petroleum, geology, combustion, and correct driving. Subjects in the special series include drilling practices, production practices, construction practices, natural gas production, and natural gasoline manufacture.

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GROUP PHOTOGRAPHED AT MONUMENT FIELD, NEW MEXICO

Left to right: P. Sullivan, foreman; A. P. Loscamp, district geologist; O. C. Dillon, gas department; C. W. McKean, superintendent for West Texas and New Mexico, all of the Barnsdall Oil Co.; C. W. Alcorn, vice president of the Falcon-Seaboard Drilling Co., contractors; James Murray, president of the Metex Supply Co., and C. C. Meyers, lease pumper. Taken in the Monument field, Lea County, New Mexico.

East and East Central Texas

By L. E. BREDBERG

TITUS COUNTY DISCOVERY IS YET AN UNTESTED PROSPECT

DALLAS, Tex., Mar. 2.—There is but little conversation being made these days about the northwest Titus County strike of Peveto, Housh & Thompson on the Carr lands in the M. V. Delgado Survey, due to the fact that the test has been shut down at 4,208 feet since it cored oil sand and showed 750 feet of oil on February 7, thereby starting a far flung Balcones Fault lease play in three directions from the well, to the east and to the west and southwest. However, the Humble Oil & Refining Co. is showing its belief in the area by starting one test and being financially interested in a second one. The test now drilling by W. C. Windsor and the Humble Oil & Refining Co., on the King and Hughes farm in the Orlando James Survey, 1½ miles southwest of Talco, is down 2,152 feet, making good time in drilling. Humble also staked location 2 miles east of the Carr strike, on the M. B. Groves 82.9-acre tract in the Ben Jones Survey, for a Trinity sand test.

Two more locations were made in the vicinity of the strike in the past week, one in the town of Talco, by Ned Morris and others, 1,289 feet west and 347 feet north of the northeast corner of the A. Rinehart Survey. This is about 1½ miles to the west of the Carr strike. The other location, made by the Lucky Strike Oil Co. on the W. D. Clark 54-acre tract in the I. P. Stern Survey, is about 1¼ miles southeast of the Carr test. These four tests will make the area most interesting, until all four are completed. There is a possibility that the Windsor and Humble test will at least reach the Paluxy sand, from which the oil is showing in the Carr test, before the latter well is even tested, as that event is indefinite. The four tests should determine whether or not a field has been uncovered in the area, and in which direction it is to run. The Lucky Strike test is considered as south of the fault, with the other three in position to cut it, so the geological information given by the drilling of these three new tests will be of extreme importance to future drilling in the area and along the fault line in all directions.

Whatever the outcome of Peveto and others No. 1 Carr, which is showing for a possible producer, new deep pay discovery and new pool opener, it has at least brought several millions of dollars of lease and royalty money into the district and revived interest in the entire district, especially in regard to deeper drilling in quest of Trinity sand production, either from the Paluxy, or the Glen Rose sands. Many deep tests will be drilled throughout the district as a result of the showing made in the Talco test, whether or not it proves a commercial producer, and 750 feet of oil in the hole from saturated sand is not to be discounted. It is better than all the advance geology in the world according to the majority who are watching this test and the district, and who saw Dad Joiner's East Texas field discovery discounted even after it made a considerable amount of oil from saturated cores. That such an oil showing as the Talco test has made cannot be lightly dispensed with, is shown by the fact that the major units made a large lease campaign along the fault on which it is located.

Other Deep Wildcats

Olson Brothers, Gardner, Skelly Oil Co. and others No. 1 Southwestern Life Insurance Co., in the J. C. Jamison Survey, about 4 miles northwest of Denison in Grayson County, again drew attention when a test was made, which showed nothing of interest. The owners are prepared to drill ahead from 4,425 feet where casing was set and cemented. The test was made in sand, which has not yet been identified, at 4,440-81 feet. Contract depth is 6,000 feet. Humble Oil & Refining Co., Tide Water Oil Co., Phillips Petroleum Co. and others have all taken protection around this test, the Humble company being the largest purchaser in the block.

Thompson & Colby have made a location and are to drill a wildcat Woodbine sand test on the W. P. Walsh lands in the S. Barnett Survey, 6½ miles northeast of Tyler in Smith County. This is about 15 miles west of the East Texas field and is in what is considered as the East Texas Basin. One test was abandoned in this county during the week. Frank Staples No. 1 Luther Hale, located in the T. C. Williams Survey, 3½ miles northwest of Arp, was given up as a dry hole at a total depth of 4,260 feet. It topped the Woodbine series, which was barren, at 4,120 feet.

Red River County suffered another dry hole this week when Abercrombie and Harrison abandoned their No. 1 Knight, 14 miles northwest of Clarksville, at a total depth of 1,012 feet. It is located in the Robert Hill Survey.

Long Lake Area

The Long Lake pool in southwest Anderson County registered another extension this week which expanded the field another three-quarters of a mile west of the nearest gas well in the Tucker extension of the pool. The gasser, drilled by the Tide Water Oil Co. and Seaboard Oil Co. on the D. C. Reagan lands, is about three-quarters of a mile south of an oil well, but it failed to log sufficient saturated oil sand to make an oil well, so was plugged back to complete as a gas well after shutting off salt water.

East Texas Field

Someone in authority has evidently slipped again for this week's location list showed a number of permits granted for the drilling of tests which will be exceptions to the spacing rule No. 37 devised by the Railroad Commission and which has been under court test for a long time. There were 80 locations staked in the East Texas field this week, the greatest number of new starts registered in the past few months. Granting the exception permits would lead one to believe that diligence and close scrutiny of footage on the leases was not carried out by those giving the authority to drill.

Well spacing rule No. 37, which reads that all wells drilled in the field, without being granted an exception to the rule, shall be drilled not less than 330 feet from property lines or 660 feet from another well. This rule was attacked by J. O. Whittington, oil operator, who brought suit against the Railroad Commission, and argument was made on it at Houston on February 29 before a three-judge federal court. Two major producing companies intervened in a former injunction suit which prevented the commission from interferring with a test started by Whittington, and asked that the injunction be set aside, which was done, with the suit being brought before the federal judges last week. Judges J. C. Hutcheson, Robert J. McMillan and T. M. Kennerly heard the case, and have taken it under advisement. The decision will be of great import as a ruling against the commission would let down the bars to dense drilling in the field. Forty-eight wells were completed in the field in the past week, five of which were pumpers, one a swabber, and two dry holes. Gregg and Rusk each received a "duster" when the operators overstepped the bounds of the field. Nine pumpers were completed the week before, with one swabber and one dry hole reported on the completion list.

The allowable factor for the East Texas field was set at 2.85 per cent of each well's rated hourly potential, effective March 1, the allowable of the field on February 27 being 436,232 bbls. per day from 19,863 wells which have an hourly potential rated at 12,005,530 bbls. Sixty-four wells in the field were reported "dead," according to the Railroad Commission.

EAST TEXAS COMPLETIONS

Completions in the East Texas and East Central Texas areas with their top of sand and total depth records and initial production were as follows:

Gregg County

Arkansas Fuel Oil Co. No. 7-A Bolton, 3,517-3,533 feet, 22 bbls. in 15 minutes; No. 9 Lee, 3,606-3,625 feet, 20 bbls. in 15 minutes. Meco Production Co. No. 2 Hickman-Beard, 3,590-3,591 feet, 45 bbls. in 30 minutes.

Collins and others No. 11 Fisher, dry and abandoned 3,436 feet. Simms and others No. 17 Flewellen, 3,626-3,646 feet, 10 bbls. in 10 minutes. Stanolind Oil & Gas Co. No. 8 Castleberry, 3,586-3,640 feet, 8 bbls. in two hours.

Tide Water Oil Co. No. 39 Lake Devernia, 3,500-3,539 feet, 15 bbls. swabbing in 10 minutes; No. 15 Shepherd, 3,669-3,700 feet, 14 bbls. in 10 minutes. Arkansas Fuel Oil Co. No. 32 Highey-Ross, 3,544-3,569 feet, 21 bbls. in 15 minutes. Magnolia Petroleum Co. No. 9 Hale, 3,541-3,610 feet, 20 bbls. in one hour.

Sinclair Prairie Oil Co. No. 50-A King, 3,467-3,510 feet, 25 bbls. in 15 minutes; No. 19 Lawther, 3,525-3,565 feet, 20 bbls. in four hours pumping. Sun Oil Co. No. 16 Morton, 3,507-3,508 feet, 30 bbls. per hour.

Arkansas Fuel Oil Co. No. 15-C Lathrop, 3,551-3,576 feet, 24 bbls. in 15 minutes. Atlantic Oil Production Co. No. 36-A Burnside, 3,523-3,538 feet, 78 bbls. per hour. Humble Oil & Refining Co. No. 11 Clemens, 3,583-3,600 feet, 48 bbls. per hour. L.G.S. Oil Co. No. 9 McQueen, 3,571-3,592 feet, 25 bbls. per hour. Magnolia Petroleum Co. No. 11 Fisher, 3,471-3,477 feet, 200 bbls. in 24 hours, pumping.

H. Smith and others No. 2 Harris, 3,488-3,517 feet, 15 bbls. per day, pumping. Stanolind Oil & Gas Co. No. 9 Castleberry, 3,555-3,575 feet, 15 bbls. in 15 minutes. Stanolind & Simms Oil Co. No. 12 Albright, 3,524-3,631 feet, 28 bbls. in 20 minutes. Everets Drilling Co. No. 6 Laird, 3,553-3,598 feet, 62 bbls. per hour.

Gralenor Oil Co. No. 9 King, 3,690-3,598 feet, 63 bbls. per hour. Gulf Production Co. No. 26 Culber, 3,524-3,570 feet, 59 bbls. per hour. Magnolia Petroleum Co. No. 8 Laird & Crim, 3,527-3,560 feet, 104 bbls. per hour. Marcus Oil Co. No. 8 Claiborne, 3,679-3,682 feet, 20 bbls. in 30 minutes through 1-inch choke. O. K. Producers No. 3-A Wells, 3,704-3,705 feet, 15 bbls. per day, pumping.

Tom Potter No. 1 Crane, 3,518-3,596 feet, 20 bbls. in 20 minutes. J. C. Potter No. 2 Culber, 3,525-3,526 feet, 8 bbls. per hour, pumping. Rushwold Oil, Inc., No. 1 Crews, 3,646-3,647 feet, 50 bbls. per hour. Texas Co. No. 30 Elder, 3,598-3,631 feet, 85 bbls. per hour. Tide Water Oil Co. No. 16 Strong, 3,653-3,661 feet, 5 bbls. in five minutes.

Rusk County

Gulf Production Co. No. 15 Birdsong, 3,573-3,585 feet, 80 bbls. per hour. Houston Oil Co. No. 5 Thompson, 3,667-3,674 feet, 21 bbls. in 15 minutes. Humble Oil & Refining Co. No. 7 Patterson, 3,525-3,560 feet, 20 bbls. in 30 minutes. Hurtle Oil Co.

No. 2 Sexton, 3,600-3,622 feet, 40 bbls. per hour.

Menke No. 2 Bradberry, top pay 3,737 feet, dry and abandoned 3,739 feet. Shell Petroleum Co. No. 4 Gill, 3,646-3,648 feet, 15 bbls. in 30 minutes; No. 5 Gill, 3,646-3,648 feet, 60 bbls. per hour. Tide Water Oil Co. No. 16 Moore, 3,679-3,697 feet, 50 bbls. in 30 minutes.

Amerada Petroleum Corp. and others No. 27 Stovall, 3,650-3,694 feet, 14 bbls. in 15 bbls. Atlantic Oil Producing Co. No. 7 Arnold, 3,625-3,725 feet, 20 bbls. per hour; No. 8 Arnold, 3,645-3,745 feet, 20 bbls. per hour. Dearing & Son No. 9 McDavid, 3,631-3,730 feet, 20 bbls. in two hours, pumping.

Royal Petroleum Co. No. 8 McDavid, 3,518-3,575 feet, 21 bbls. per hour, pumping. Fair & Thompson No. 4 Deason, 3,621-3,675 feet, 45 bbls. in 24 minutes. Georgian Oil Corp. No. 3 Kee, 3,801-3,802 feet, 30 bbls. in 45 hours. Gulf Oil Corp. No. 7 Johnson, 3,752-3,758 feet, 20 bbls. in 20 minutes.

Humble Oil & Refining Co. No. 10 Blackwell, 3,668-3,683 feet, 22 bbls. in 30 minutes; No. 46 Blackwell, 3,641-3,667 feet, 22 bbls. in 20 minutes; No. 10 Florey, 3,683-3,724 feet, 28 bbls. in 23 minutes.

Jones Brothers No. 6 Moore, 3,643-3,663 feet, 30 bbls. in 30 minutes. Lake Oil Co. No. 3 Slaughter heirs, 3,632-3,633 feet, 11 bbls. in 30 minutes. Petroleum Marketing Co. No. 1 Graham, 3,672-3,673 feet, 40 bbls. per hour. G.B.R. Oil Co. No. 7 Thrash, 3,727-3,771 feet, 68 bbls. per hour.

Retsal Drilling Co. No. 22 Maxwell, 3,610-3,686 feet, 20 bbls. in two hours pumping. Union Oil Co. No. 3 Tolliver, 3,690-3,755 feet, 40 bbls. per hour. R. H. Vise No. 11 Alford, 3,807-3,808 feet, 60 bbls. per hour.

Groneman No. 1 Mayfield, 3,636-3,670 feet, 10 bbls. per hour, swabbing. Louisiana Oil & Refining Co. No. 13 Jernigan, 3,593-3,618 feet, 100 bbls. per hour. Magnolia Petroleum Co. No. 14 Bean, 3,535-3,610 feet, 15 bbls. in 15 minutes. Patterson Drilling Co. No. 6 Brock, 3,656-3,675 feet, 75 bbls. per hour.

Amerada Petroleum Co. No. 24 Stovall, 3,602-3,640 feet, 30 bbls. in 30 minutes. Atlantic Oil Production Co. No. 16 Fair, 3,605-3,627 feet, 100 bbls. per hour. Campbell Syndicate No. 3 Wooley, 3,615-3,680 feet, 160 bbls. in 24 hours, pumping. Gant and others No. 14 Harris, 3,571-3,595 feet, 10 bbls. per hour, pumping. Manahan Drilling Co. No. 4 Deason, 3,671-3,683 feet, 12 bbls. in 30 minutes.

Marathon Oil Co. No. 30 Moore, 3,626-3,712 feet, 48 bbls. per hour. Royall Petroleum Co. No. 3 Moore, 3,580-3,610 feet, 20 bbls. per hour, pumping. Sneed and others No. 2-B Rolling, 3,664-3,665 feet, 30 bbls. in 30 minutes. Sun Oil Co. No. 2 Dorsey, 3,575-3,605 feet, 20 bbls. in four hours, pumping; No. 6-A Schuler Brothers, 3,627-3,663 feet, 25 bbls. in 25 minutes.

Texas Co. No. 21 Henry, 3,654-3,658 feet, 45 bbls. per hour. Campbell Syndicate No. 4 Wooley, 3,606-3,700 feet, 150 bbls. per day, pumping. Winn Oil Co. No. 1 Rettig, 3,677-3,679 feet, dry and abandoned.

Smith County

Sinclair Prairie Oil Co. No. 50-A Mayfield, 3,805-3,808 feet, 65 bbls. per hour. Harrison No. 1 Lanham, 3,779-3,780 feet, 20 bbls. per hour. Sun Oil Co. No. 29-B Pace, 3,780-3,781 feet, 20 bbls. in 40 minutes; No. 7-B Ritch, 3,717-3,723 feet, 60 bbls. per hour. Texas-Canadian Oil Co. No. 2 Seale, 3,733-3,734 feet, 60 bbls. per hour.

Cooper & Roosth No. 1 Wolford, 3,748-3,749 feet, 163 bbls. in four hours. Magnolia Petroleum Co. No. 35 Wright, 3,674-3,685 feet, 31 bbls. in 15 minutes. Stewart & Eagin No. 3 Bateman, 3,769-3,771 feet, 30 bbls. in 30 minutes.

Upshur County

Margay Oil Co. No. 8 Victory, 3,581-3,663 feet, 28 bbls. in 30 minutes. Trail No. 6 Shelton, 3,725-3,745 feet, 20 bbls. in three hours, pumping. Jim Wood No. 3 Mackey, 3,743-3,749 feet, 20 bbls. in 30 minutes.

Simms & Buttram No. 19 Nicholson, 3,647-3,654 feet, 10 bbls. in 10 minutes. Sun Oil Co. No. 7 O'Byrne, 3,729-3,736 feet, 20 bbls. in 40 minutes.

Cherokee County

Texas-Canadian Oil Co. No. 1 Keel, 3,654-3,657 feet, 100 bbls. in one and one-quarter hours.

MISCELLANEOUS

Anderson County—Cayuga Area

Diamond Half Production Co. No. 1 Barton, total depth 4,050 feet, 18 bbls. per day.

Red River County

Abercrombie & Harrison No. 1 Knight, dry and abandoned at 1,012 feet, 14 miles northwest of Clarksville.

Smith County

Staples No. 1 Hale, dry and abandoned at 4,260 feet, 3½ miles NW of Arp. Top Woodbine 4,120 feet.

Van Zandt County

Pure Oil Co. No. 5 Butler, total depth 2,972 feet, 20 bbls. per day, pumping.

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Key to Abbreviations Used in Drilling Reports

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging (or plugged) back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.P., pulled pipe.
R. or Rmg., reaming.
R.A., right angle (referring to location).
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rig going up, rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down waiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.M.B., state mining bureau.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
Stk., streak.
S.W., salt water.
Swb., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.

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Among Gulf Coast Drilling Contractors

George Echols received the contract from Sun Oil Co. to drill No. 3 J. J. Marek in the Placedo field in Victoria County, and has moved in the rig. Echols also is drilling near Corpus Christi in Nueces County for the Taylor Refining Co. and in the Gillis field in Calcasieu Parish, Louisiana, Fohs Oil Co. No. 1 Salt Dome Oil Co.

Ben (Bud) Coyle, who drilled the discovery well of Jeanerette field in St. Mary Parish, Louisiana, for the Herton Oil Co. has apparently opened up a shallow sand for the field, which was encountered in the company's No. 2 Roane, located south of the discovery well. Oil sand was topped at 6,653 feet, and at a total depth of 6,665 feet a 15-minute drill stem test tested 42 stands of oil. A production string of 9⅝-inch casing has been cemented to the top of the sand. The discovery well was completed at a plugged back depth of 7,498 feet. At Port Barre, for the Pan American Producing Co., No. 1 Watkins is reaming at a total depth of 5,082 feet.

Glenn H. McCarthy, who drilled the first large extension at the Anahuac field in Chambers County, is attempting to do the same thing at the new Amelia field in Jefferson County, where he is nearing the pay sand on his No. 1 Longe, located 2 miles northeast of the discovery well. It is drilling below 6,225 feet and is running over 200 feet structurally higher, which makes the outcome of the well appear very favorable. At the Penn City area, Haryln Oil Corp. No. 1 Harris County Houston Ship Channel, located in Harris County, is drilling below 5,800 feet and should reach the contract depth during the week. No. 7 White, being drilled for the Humble Oil & Refining Co. and located in the Anahuac field, Chambers County, is drilling below 6,270 feet and should pick up the sand within the next few days.

Noble Drilling Co. has recompleted No. 1 Cooper at Turtle Bay in Chambers County for Stanolind Oil & Gas Co. It was plugged back to 6,611 feet and flowed 118 bbls. in 24 hours through a quarter inch choke. No. 1 State, located out in the bay, is drilling below 2,500 feet.

Edwards Drilling Co. has set 5-inch liner in No. 274 Lake Pegneur for the Jefferson Lake Oil Co., located in the Jefferson Island field in Iberia Parish, and is preparing to test at a plugged back depth of 8,484 feet. This is the deepest test drilled on this dome and it is located out in the lake. In the Dickinson field, rigs are running for Pure Oil Co. and Coast Petroleum, both of which are drilling below 5,800 feet.

W. Claude Smith has moved in a rig to the Pickett Ridge field in Wharton County to drill No. 12-A Pierce for the Texas Co. This is the first contract job to be drilled in this field.

Besides drilling for operators in the Plymouth, Loma Novia and Seven Sisters fields of San Patricio and Duval Counties, Al Buchanan has rigs active on three wildcat locations in the former county. One, drilling for the Stanolind Oil & Gas Co. is below 5,000 feet, and the other two are getting under way for the Plymouth Oil Co. Mr. Buchanan

(Continued on Page 76)

A. H. Proctor (left), field superintendent for the Magnolia Petroleum Co., formerly located at Eldorado, Kans., has been made field superintendent for the same company in the Fitts pool, Ada, Okla., where the company has several rigs running. For several years before going to Kansas, Mr. Proctor was superintendent for the Magnolia Petroleum Co. in the Mirando City area, and was well known by many Southwest Texas oil men. With Mr. Proctor in the picture are Tony Williams (center), field foreman, and Tom J. Litman, tool pusher, both with the Magnolia in the Fitts pool.

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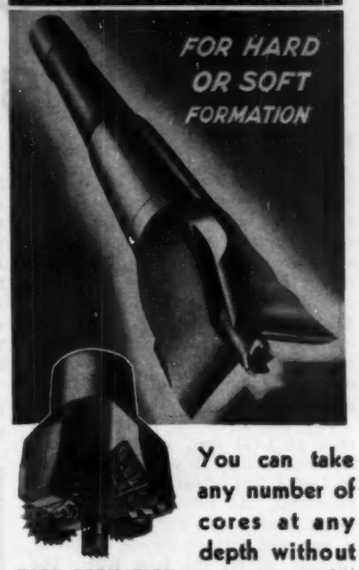

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Oklahoma Operations

By
DAL DALRYMPLE

OPEN SENORA SAND POOL IN SOUTHERN OKFUSKEE AREA

A wildcat that may be a new Senora sand pool opener, but which is thought more likely to be an extension well of the Olympic pool, was a feature of an otherwise drab week in the Oklahoma oil fields. The wildcat, Manahan & Grisso No. 1 Dalton, SE SE SE section 36-10-8, is in southern Okfuskee County, approximately three-fourths of a mile northeast of nearest production in the Olympic pool of northwestern Hughes County.

The No. 1 Dalton topped Senora sand at 1,721 feet, where it had a showing of oil. In cores from 1,725-40 feet, 4 feet of saturated sand was recovered. At total depth of 1,763 feet it had a hole full of oil. After it was shot with 60 quarts, it flowed 75 bbls. of oil the first hour; the next day it flowed 225 bbls. in seven hours. It was shut in overnight, and then flowed 155 bbls. in five hours and 48 bbls. in the next four hours while cleaning out.

The Senora sand is the producing horizon in the Olympic pool, which has been one of the "hot" spots in Oklahoma for several months. Most of the production is from the 1,700-1,800-foot level, with initial production per well running from 100 bbls. or less a day to as high as 1,500 bbls. The proven producing area in the Olympic pool is about 1½ miles long from north to south and more than one-half mile wide from east to west. Two dry holes along the south side apparently have defined it in that direction. Dry holes also have been drilled to the southeast and the southwest of the pool. The Manahan Oil Co. of Tulsa and associates are the principal operators in the area, but other firms holding acreage in the proven area include Sinclair Prairie Oil Co., Potoc Oil Co., and Blackwell Oil & Gas Co.

The deep well at Binger in Caddo County still was an unknown quantity. The Denver Producing & Refining Co. No. 1 Sah-Cam, C SE SE section 33-10-10, was at total depth of 10,030 feet, and tests through tubing were continuing without results being announced. The well has produced some oil.

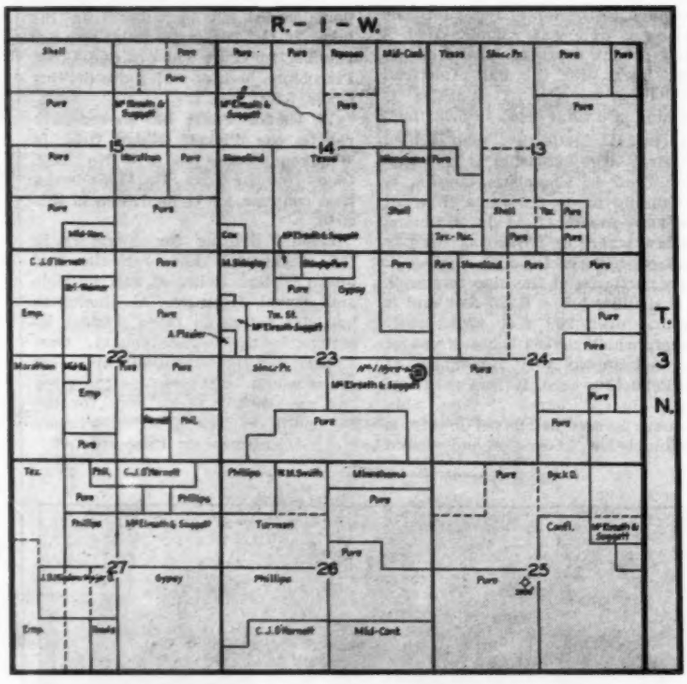
A Garvin County wildcat, the McElreath & Suggett No. 1 Hyre, NE NE SE section 23-3-1w, near Pauls Valley, was the cause of considerable excitement in Oklahoma oil circles when it cored saturated sand thought to be the Wilcox. Hopes of another strike were dimmed, however, when it showed only mud and water on a drill stem test. It tested 2,700 feet of water with some live oil in the Wilcox at 4,109-19 feet, on a later test, and operators were preparing to drill through the sand.

Pontotoc County

Seven new producers were completed and one old producer was deepened and recompleted in the Fitts pool of Pontotoc County. H. L. Blackstock No. 1 Daniels, SE SE SW section 21-2-7, topped Hunton lime, the producing formation, at 3,485 feet; Bromide, 4,200 feet; McLish, 4,415 feet; total depth 4,478 feet, salt water intruded; plugged back to 3,906 feet, was shot and acidized and flowed 1,724 bbls. of oil in 24 hours through tubing on completion test.

J. C. Crosbie, Inc., No. 2 Burris, SE SE NW section 27-2-7, made a potential of 3,858 bbls. of oil in 24 hours, and was completed; top of Bromide was found at 3,975 feet; McLish, 4,180 feet; total depth, 4,273 feet; after acidizing with 5,000 gallons, it flowed 514 bbls. of oil in the first hour through casing, gross; 307 bbls. net in two hours through tubing and 192 bbls. in one hour through tubing. Magnolia Petroleum Co. No. 2 Burris heirs, NW SW NE section 27-2-7, topped Bromide at 4,015 feet; McLish, 4,239 feet; total depth 4,242 feet; flowed 1,213 bbls. of oil in seven hours through casing, was acidized and made 24-hour potential of 2,078 bbls. of oil; completed. Same operator's No. 3 Burris heirs, NW SW NW section 27-2-7, made 24-hour potential of 3,327 bbls. of oil; it had top of Bromide at 4,055 feet; McLish, 4,260 feet; total depth 4,285 feet; was acidized with 5,000 gallons and flowed 446 bbls. of oil gross in the first hour through casing, and 329 bbls. net in the second hour.

Samedan Oil Co. No. 1 Holkum, SW SW NE section 27-2-7, was completed with a 24-hour potential of 3,818 bbls. of oil. It had top of Bromide at 3,985 feet; McLish, 4,180 feet; total depth 4,275 feet; and flowed 435 bbls. of oil in 10 hours while drilling at 4,275 feet. E. H. Moore and others No. 2 Mack, SE NW SE section 28-2-7, topped Bromide at 3,850 feet; McLish, 4,070 feet; total depth, 4,295 feet; flowed 381 bbls. of oil in one hour at 4,183 feet, 514 bbls. in one hour at 4,295 feet, and made 24-hour potential of 3,552 bbls. of oil, gas gauging 2,166,000 feet. Same operator's No. 8 Wirick, SW NE SW section 28-2-7, drilled to 4,396 feet, total depth, was treated with 6,000 gallons of acid and made 24-hour potential of 2,694 feet. Bromide was topped at 3,940 feet; McLish, 4,165 feet. At 4,295 feet it flowed 659 bbls. of oil in one and one-half hours, and at 4,335 feet flowed 306 bbls. of oil in one hour. Same operator's No. 2 Woodruff, NW NE SE section 29-2-7, old well deepened from 4,201 feet, flowed 325 bbls. of oil in one hour while deepening at 4,251 feet; flowed 864 bbls. of oil in one hour and 45 minutes at 4,334 feet, total depth; was acidized and made 24-hour potential of 2,693 bbls. of oil.



McElreath & Suggett No. 1 Hyre, NE NE SE section 23-3-1w, wildcat in Garvin County, was drilling ahead through sand after showing water and some oil on test

(Mid-Continent Map Co., Tulsa)

Elsewhere in Pontotoc County two wells were completed. Sunray Oil Co. No. 11 Rickey, SW NE NE section 12-4-7, found sand at 1,984 feet, total depth 1,998 feet; was shot with 20 quarts and pumped 100 bbls. of oil in 24 hours. Mary F. Oil Co. No. 3 Butler, SE NE NE section 21-5-8, was dry and abandoned at 950 feet, total depth, failing to find a sand.

In Pontotoc County, the following new work was starting: Sunray Oil Co. and others No. 1 Sherwood heirs, SE NW SE section 2-1-7, Block 4, Lot 2, Jesse townsite, location; Carter Oil Co. No. 6 Richards, SE NW SE section 30-2-7, rigging up to drill deeper; Stanolind Oil & Gas Co. No. 8 Harden, NE SW SW section 30-2-7, old well deepening, a rig; Mary F. Oil Co. No. 2 White, SE NW SE section 16-5-8, rigging up; Senora Oil Co. No. 5 Gilmore, SW SE NE NE section 22-5-8, machine; O. H. P. Thomas, C NW NW section 28-5-8, spudded and shut down; Clark & Cowden No. 3 Brown, formerly reported as in C N half SE NE section 12, is in NW SE NE section 12-4-7.

E. H. Moore and others No. 5 Akers, NE SE NE section 36-2-6, deepening from old total depth of 4,281 feet, in McLish topped at 4,275 feet, had a showing of water at 4,499 feet, total depth; plugged back to 4,424 feet, flowed 1,319 bbls. of oil in nine hours and 40 minutes through tubing, then flowed 351 bbls. of oil in five hours and 45 minutes, and was acidized. Manahan Oil Co. and Sinclair Prairie Oil Co. No. 1-A Reynolds-Wagner, SE SW NW section 17-2-7, had sand at 1,748-1,767 feet, total depth 1,768 feet, swabbed 22 bbls. of oil in 12 hours and was put on the pump. Sinclair Prairie Oil Co. No. 1 Burris, SE NE NW section 27-2-7, topped Bromide at 4,105 feet; McLish, 4,303 feet; total depth, 4,305 feet; flowed 210 bbls. of oil in the first hour through casing, and 194 bbls. in the next two and one-half hours through tubing. Same operators' No. 2 Burris, SW NW NW section 27-2-7, made a potential of 2,076 bbls. of oil, after topping Bromide at 4,051 feet; total depth 4,065 feet, and acidizing. Same operators' No. 3 Burris, SW NE NW section 27-2-7, was drilling ahead after topping Viola lime at 3,813 feet, drilling to 4,092 feet, total depth, acidizing and flowing 470 bbls. of oil in 24 hours through casing.

Carter Oil Co. No. 8 Smith, SE NW SW section 28-2-7, found Bromide at 3,925 feet; McLish, 4,145 feet; total depth, 4,356 feet; flowed 514 bbls. of oil in five hours through tubing; 270 bbls. in two hours through casing; 303 bbls. in three hours through tubing, and 196 bbls. in one hour and 30 minutes through casing, before acidizing. E. H. Moore and others No. 6 McKoy, SW cor. section 28-2-7, topped

Bromide at 3,880 feet; McLish, 4,100 feet; Dense, 4,310 feet; total depth, 4,421 feet; and made several flows while drilling in Bromide, the largest being 388 bbls. in two hours at 4,090 feet; gas gauged as high as 6,000,000 feet.

Estimated Production

Estimated daily average production of Oklahoma for the week ending February 29 and for the preceding week is as follows:

	Barrels	
	Feb. 29	Feb. 22
Allen	6,850	6,925
Asher-West Asher	850	900
Burbank	7,400	7,800
South Burbank	11,500	11,500
Balance Osage	22,500	22,750
Blackwell	4,350	4,700
Bristow-Slick	8,450	8,750
Chandler	3,975	4,050
Crescent	4,750	5,200
Cromwell	3,925	3,950
Cushing-Shamrock	11,500	12,100
Duncan district	3,900	3,950
Edmond	9,150	9,475
Fish	10,350	10,900
Fitts	42,575	42,750
Gray	1,775	1,775
Graham	3,800	3,850
Healdton	8,950	8,975
Hewitt	4,375	4,400
Holdenville	1,150	1,125
Keokuk	4,675	5,950
Konawa	1,875	2,025
Lucien	10,000	10,250
Marshall-Lovell	1,025	1,000
Oklahoma City	131,150	150,625
Papoose	1,150	1,175
Polo	3,025	3,100
Sasakwa and townsite	3,375	3,525
Sholem-Alechem	3,450	3,500
Seminole field:		
Bowlegs	10,850	10,000
Carr City	6,525	5,675
Earlsboro	7,750	7,575
South Earlsboro	950	925
East Earlsboro	10,325	10,025
Little River	14,050	14,000
East Little River	1,300	1,050
Maud	950	1,000
Mission	2,650	2,650
Seminole	11,000	10,825
East Seminole	1,750	1,475
Searight	4,075	4,700
Total Seminole	72,175	69,900
St. Louis-Pearson	22,450	22,875
Tatums	3,600	3,600
Tonkawa-Garber-Thomas	5,350	5,400
Wewoka	3,800	3,850
Yale-Jennings	4,025	4,100
Other pools	56,300	57,100
Total Oklahoma	499,500	523,800

Seminole County

Four wells in Seminole County were completed. Sinclair Prairie Oil Co. No. 3 Davis-B, SW NE SW section 7-6-8, topped Gilcrease sand series at 2,738 feet; total depth, 2,783 feet, and swabbed 49 bbls. of oil in 24 hours. Same operators' No. 1 Mason, SW SW NE section 33-7-6, topped Booch sand at 2,910 feet; drilled to 2,985 feet, total depth, was shot and pumped 8 bbls. of oil in 24 hours.

Fleetborn Oil Corp. No. 5 Stump, SE SE SW section 27-8-8, swabbed 400 bbls. of oil in 24 hours and was completed, after topping Wilcox sand at 4,187 feet, drilling to 4,192 feet and shooting on bottom. Gulf Oil Corp. No. 2 Scott Fife, C E half NE NW section 11-10-6, topped Misener sand, the producing formation at 4,160 feet; total depth, 4,172 feet; flowed 380 bbls. of oil in 16 hours through casing and later flowed 714 bbls. of oil in 24 hours through tubing.

New work in Seminole County: Lynch Drilling Co. No. 2 Huddleston, SW NE SW section 19-5-6, cellar and pits; Sinclair Prairie Oil Co. No. 2 Harjo, formerly reported as No. 1 Harjo in NW SW NE section 12-5-7, is in NW NW SE section 12-5-7; Patrick-Means Oil Corp. No. 1-A Jones, NE NW SW section 11-6-6, building rig; Carter Oil Co. No. 2 Whitney, C W half SE SW section 7-10-6, location; same operators' No. 2 Badger, C W half SW SW section 11-10-6, moving in rig; same operators' No. 1 Combs, C E half SE NW section 19-10-6, location; same operators' No. 3 Bruner C-32, C W half NW NE section 19-10-6, location.

In the East Seminole pool, J. D. Campbell No. 1 Park, SE SW SE section 8-9-7, topped Cromwell sand at 3,441 feet, drilled to 3,445 feet and flowed 50 bbls. of oil in the first hour, with gas estimated at 4,000,000 feet. Carter Oil Co. and others No. 1 Harber, C W half SW SE section 2-10-6, in the Keokuk pool, found top of Misener sand at 4,139 feet; total depth, 4,162 feet; swabbed 50 bbls. of oil in six hours; flowed 107 bbls. in 12 hours through casing and tubing; was treated with acid and flowed 190 bbls. of oil in 24 hours through tubing. Carter Oil Co. and Magnolia Petroleum Co. No. 3 Scott, C W half SE SW section 11-10-6, had top of Hunton lime at 4,188 feet; was bottomed at 4,197 feet; was acidized and flowed 170 bbls. of oil in 15 hours through tubing. Carter Oil Co. No. 1 Fannie Black, C E half NW NW section 23-10-6, swabbed 75 bbls. of oil in eight hours after encountering Hunton lime at 4,248 feet and drilling to 4,261 feet, total depth.

Osage County

Comail Oil Co. had the largest producer completed in Osage County the past week at its No. 10 Osage, SW NE SW section 32-22-8, east of the Boston pool. Lime pay was topped at 1,803 feet and at 1,824 feet it flowed 80 bbls. of oil in 24 hours. It was acidized, flowed 167 bbls. in four hours, and potential was estimated at 1,000 bbls.

Kewanee Oil & Gas Co. No. 2 Osage, SE SW SE section 27-26-6, in the South Burbank area, topped Bartlesville sand at 2,870 feet, total depth 2,943 feet, and flowed 188 bbls. of oil in the first 24 hours after a shot with 140 quarts; completed.

Carter Oil Co. and others No. 10 Eva Bean, SE SW NW section 15-25-6, had top of Bartlesville sand at 2,806 feet, total depth 2,844 feet; flowed 36½ bbls. of oil in six hours and was completed.

Continental Oil Co. and Gulf Petroleum Corp. No. 16 Osage, NE SE NE section 21-24-7, had top of Bartlesville sand at 2,551 feet, total depth 2,643 feet, and flowed and swabbed 87 bbls. in 15 hours after a shot. M. & T. Oil Co. No. 5 Osage, SW NE SW section 34-23-9, had Layton sand at 1,018-35 feet; total depth 1,039 feet; plugged back to base of the Layton, shot with 70 quarts and pumped 10 bbls. of oil in 24 hours; completed.

Continental Oil Co. No. 3 Osage, NW NW SE section 21-24-7, in the Naval Reserve area of Osage County, reported for the first time, deepened from old total depth of 2,698 feet to 2,703 feet, flowed 245 bbls. natural; later flowed 145 bbls. of oil in the first hour after a shot and 264 bbls. in the next 24 hours, completed.

New Osage County tests included Carter Oil Co. and others No. 4 D. Munza C-42, NE NW NW section 2-25-6, a location, and Lewis Production Co. and Texas Co. No. 5 Claremore, SW NE SE section 17-24-7, standardizing.

Kay County

Kansas-Oklahoma Oil & Gas Co. No. 1-A Dilworth, NE SE NE section 6-28-1, in the Dilworth pool of Kay County, was completed at 1,016 feet, total depth; gas production was estimated at 500,000 feet.

Pawnee County

Sand Springs Home No. 1 Blackburn, NE SE NE section 5-20-7, in the Hallett area of Pawnee County, carried on the reports for the first time, topped Bartlesville sand at 2,740 feet, had a hole full of water at 2,804-09 feet, total depth, and was abandoned.

Only new test starting in Pawnee County was the J. L. Donahue No. 2 Vaughn, SW NE NW section 27-23-4, building rig.

Okfuskee County

Stekoll & McCann No. 2-A Detzler, NW SE NE section 2-10-11, Okfuskee County, produced 2,000,000 feet of gas, with 350 pounds rock pressure, from sand at 875-900 feet, total depth, and was completed. Dinehon No. 1 Fleming, SW SE SW section 2-10-11, topped sand at 1,649 feet, total depth 1,660 feet, pumped 15 bbls. of oil in 24 hours and was completed. W. B. Wells No. 1-A Clark, SW NE NW section 11-10-11, pumped 35 bbls. of oil in 25 hours, completed, after finding sand at 2,110 feet, total depth 2,130 feet, and shooting with 30 quarts. Panther Oil Co. No. 2-A Smith, SW NE NE section 11-11-11, topped sand at 1,174 feet, total depth 1,181 feet, was shot with 20 quarts and pumped 20 bbls. of oil in 24 hours, completed. Keaton & Gold No. 1-A Likowski, SE NE NW section 26-11-11, was completed after pumping 20 bbls. of oil in 24 hours; sand was topped at 1,652 feet, total depth 1,880 feet.

New work in Okfuskee County: Carter Oil Co. No. 4 Dill, C SW SE section 2-11-8, in the Dill pool, rigging up rotary; Atlantic Oil Refining Co. No. 6 Wind, C E half SW NE section 35-11-9, location.

In the Dill pool, Carter Oil Co. No. 1 Hicks, C NE SE section 11-11-8, topped Hunton lime at 3,908 feet; total depth 3,976 feet; was acidized and flowed 310 bbls. of oil and 280 bbls. of water in seven hours.

Oklahoma County

Westgate Oil Co. No. 14 Carey, NW NW SE section 34-12-3w, in the Oklahoma City area, topped second Wilcox sand, the producing horizon, at 6,387 feet, and was completed at 6,539 feet, total depth. It flowed 449 bbls. of oil in six hours, producing 342 bbls. in the last four hours to give it a potential of 2,052 bbls. of oil in 24 hours.

Only other completion at Oklahoma City was the Larkin & Warr No. 1 Lucas, NE NW SW section 36-12-3w. It is producing from the Simpson zone, topped at 6,222 feet, total depth 6,419 feet. It was treated with 5,000 gallons of acid and flowed at the rate of 10 bbls. of oil per hour, cutting 5 per cent water; gas gauged 1,000,000 feet.

Pottawatomie County

Phillips Petroleum Co. No. 2 Weldfelt, SW NW NW section 2-7-4, Pottawatomie County, deepened from old total depth of 3,933 feet, topped Dolomite at 4,130 feet; Wilcox sand 4,298 feet; total depth 4,306 feet; swabbed 24 bbls. of oil and 7 bailers of water in eight hours from Wilcox sand; plugged back to 4,162 feet; ripped 6-inch casing at 3,280 feet and pumped 93 bbls. of oil and 6 bbls. water in 24 hours and was completed. Same operator's No. 1 Duff, NE NW SW section 10-7-4, old total depth 4,161 feet, plugged back to 3,856 feet; ripped 6-inch casing at 3,350-60 feet; was shot and swabbed 32 bbls. of oil in 12 hours; then pumped 60 bbls. of oil in 24 hours, completed.

The Shawnee pool has been extended one-fourth mile north by Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Rushing, SW SW SE section 32-11-4. Top of Earlsboro sand was 4,435 feet. At total depth of 4,447 feet, it flowed 47 bbls. of oil in seven hours. It was deepened to 4,453 feet, and flowed and swabbed 332 bbls. in 24 hours. At total depth of 4,458 feet it produced 135 bbls. in 15 hours, flowing by heads.

Hughes County

Three new Senora sand producers were completed in the Olympic pool of northwestern Hughes County. Manahan Oil Co. and others No. 4 Oliphant-C, SW NW SW section 1-9-8, topped Senora sand at 1,700 feet, total depth 1,732 feet, shot with 60 quarts and swabbed 105 bbls. of oil in 24 hours, with a showing of water. George Manahan and others No. 1 Oliphant-D, NW SE SW section 12-9-8, found top of the sand at 1,750 feet; total depth 1,778 feet; was shot with 60 quarts and flowed 123 bbls. of oil in 10 hours. Hayes Drilling Co. and others No. 1 Whitaker, NE cor. section 14-9-8, pumped 35 bbls. of oil and 90 bbls. of water in 24 hours, after topping sand at 1,855 feet, total depth 1,895 feet, and shooting with 40 quarts.

Only new test in Hughes County was Fitzpatrick and others No. 1 Cotton, SE SE NE section 13-8-8, wildcat, building rig.

Pittsburg County

Weibel and others No. 1 Brown, SW NW SW SW section 14-8-15, wildcat, in northern Pittsburg County, had sand with salt water at 783-94 feet, dry sand at 840-41 feet, total depth, and was dry and abandoned.

Creek County

Johnson Oil Refining Co. No. 6 Murrell, SW SE NW section 17-18-9, Creek County, topped Red Fork sand at 2,322 feet, total depth 2,353 feet, and pumped 30 bbls. of oil after shot; completed. Sinclair Prairie Oil Co. No. 2 Kernal, NE NW SE section 30-14-8, deepened from 3,422 feet, topped Wilcox sand at 4,016 feet; total depth 4,034 feet; was shot and swabbed 85 bbls. of oil. Tibbins Estate No. 2 Beard, NW NW NE section 18-14-9, had Prue sand at 2,326-66 feet, total depth 2,367 feet, and swabbed 70 bbls. of oil after shot, completed. Peter Adamson, Jr., No. 1 Weaver, SE cor. 5-18-10, topped Bartlesville sand at 1,739 feet, total depth 1,800 feet, and pumped 6 bbls. of oil.

New work starting in Creek County: Sinclair Prairie Oil Co. No. 22 Jones, NW SE NW section 3-17-7, old well deepening, drilling at 2,510 feet; same operator's No. 1 Kernal, SW SW NE section 30-14-8, old well deepening, rigging up; same operator's No. 6 Watson, SW NE NE section 15-14-8, old well rigging up to deepen.

Tulsa County

Johnson Oil Refining Co. No. 1 Stebbins, SE SW SE section 30-19-10, in the Keystone area, Tulsa County, was drilling at 1,600 feet.

Okmulgee County

Stekoll and others No. 2-A Hawkins, SW NW SE section 6-11-12, in Okmulgee County, had a hole full of water at 2,791 feet, total depth, and was dry and abandoned. Clark No. 1-A Calloway, NE SW SE section 3-11-12, was dry and abandoned at 2,-

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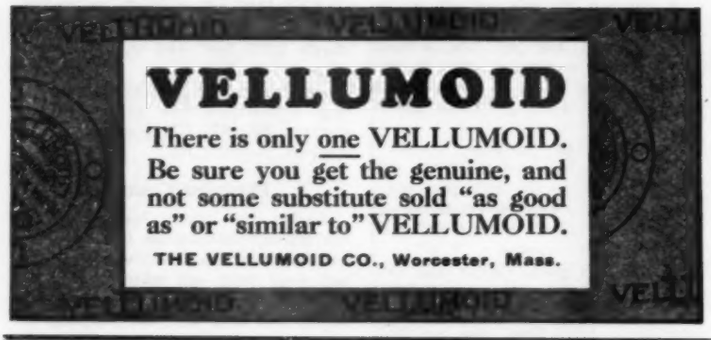
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772 feet, total depth; sand was topped at 2,729 feet. Mack Drilling Co. No. 1 Moore, NE NE NW section 31-13-14, topped sand at 1,688 feet, and was dry and abandoned at 1,740 feet.

New work in Okmulgee County was as follows: Klingensmith No. 13 Farr, CWL NE NW section 35-16-11, shut down at 300 feet. Geiger No. 1-A Colbert, CSL NW NW section 22-14-12, old well to be deepened, a machine.

Noble County

Phillips Petroleum Co. and Shell Petroleum Corp. No. 1-A McCaughtry, NW NE NE section 21-23-2w, Wilcox sand discovery well in the Billings area of Noble County, was completed, with production estimated at 10,000 bbls. of oil daily. Top of Wilcox sand, corrected, was 4,240 feet. It began flowing by heads at 4,255 feet, and at 4,258 feet it flowed over top of the derrick and was shut in. When opened it flowed 2,212 bbls. in two hours and 40 minutes, gas gauging 39,500,000 feet. Oil was 44.2 gravity. On subsequent days it flowed 2,548 bbls. in six and one-half hours; 2,596 bbls. in five and one-half hours; 2,517 bbls. in six and one-quarter hours; 2,622 bbls. in six and three-quarter hours, and 3,285 bbls. in eight and three-quarter hours. Discovery of Wilcox sand production in this well at Billings was the first major strike in Oklahoma in 1936, and was the signal for other wells in that area to be started in quest of the rich pay. The new well is located on the west side of the pool; wells on the east side missed the Wilcox, going into the Arbuckle lime.

In the Polo area, Twin State Oil Co. No. 5 DeVore, NW NE NW section 27-22-2w, topped Dolomite at 4,875 feet; first sand, 4,892 feet, and at total depth of 4,920 feet flowed 547 bbls. of oil in 12 hours. It was shut in for potential test.

Logan County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 2 Pfeiffer, C N half SE SW section 33-20-2w, on the Logan County side of the Lucien pool, found Dolomite at 4,877 feet; first sand, 4,892 feet; flowed 617 bbls. of oil in 24 hours from 4,900-02 feet; topped second sand at 4,966 feet; total depth, 5,070 feet; flowed 210 bbls. the first hour, 190 bbls. the second hour and 195 bbls. the third hour. It was shut in for potential test.

Carter County

Schermerhorn Oil Co. No. 1 Clowdus, NW NW NE section 2-4s-2w, wildcat northeast of the Hewitt pool and southeast of the Wheeler area, in Carter County, was completed as a 6-bbl. pumper at total depth of 1,019 feet in shale. Granite wash was topped at 982 feet, and the pay sand was found at 1,014-17 feet.

Earl Z. Gray No. 3 Sullivan, SE NW SE section 36-4s-2w, in the Hewitt pool, pumped 4 bbls. of oil and 40 bbls. of water in 24 hours and was completed. Sands were topped at 2,553 feet, 2,651 feet and 2,665 feet; total depth 2,693 feet. It was plugged back to 2,615 feet and drilled out to 2,640 feet.

The following new work in Carter County was reported: Samedan Oil Co. No. 1 Akers, NE SE NE section 5-2s-2w, spudding with rotary tools; same operator's No. 2 Higgins-D, NE SE NW section 6-2s-2w, rig; Skelly Oil Co. No. 3 Westheimer, SE SE NW section 8-2s-2w, moving in material; Carter Oil Co. No. 12 Roy Johnson, C N half NW NW section 5-4s-3w, location.

Sinclair Prairie Oil Co. No. 22 Million & Thomas, NW SW SE section 5-4s-3w, the well that caused considerable excitement recently when it found Ordovician pay in the old Healdton pool, was drilling at 3,066 feet in lime after making several flows of oil, the last gauge showing 35 bbls. in 24 hours. Lime pay was topped at 3,005 feet. Shell Petroleum Corp. No. 40 McClure, SE NE SW section 5-4s-3w, had sand at 1,014 feet, total depth 1,145 feet, and was rigging up to pump; production was estimated at 30 bbls. of oil a day.

Marshall County

In the Madill area, B. C. Lemond No. 1 Johnson, C S half N half NW section 14-5s-5, in Marshall County, was abandoned at total depth of 730 feet. Arbuckle formation was topped at 486 feet and was dry. It had a show of oil, gas and water in lime at 632-42 feet, but failed to pick up anything worth while. G. M. Feltz No. 3 fee, NW SW NW section 6-8s-6, had dry Arbuckle sand at 511-16 feet and was dry and abandoned at 560 feet, total depth. Elmir-Gill No. 1 Lindecker, NW SE NW section 7-8s-6, wildcat south of Isom Springs, had dry Arbuckle sand at 548-70 feet and was dry and abandoned at 580 feet.

Bryan County

C. B. Welch No. 1 Collins, NE NE SE section 19-8s-8, wildcat near Colbert in Bryan County, was abandoned at 815 feet, total depth. It had been shut down since machine was moved out in October. Dry Arbuckle sand was found at 540-43 feet.

In Comanche County, A. H. Emenhiser No. 1-A Shull, NE NW SW section 29-2-10w, in the Lawton area, was dry and abandoned at 537 feet, total depth. E. C. Pettey and others No. 1 Mitchell, NE NE NW section 10-3-10w, in the Elgin area, drilled to 1,145 feet, total depth in shale, and was dry and abandoned.

In Kiowa County the wildcat strike of W. C. Adams and others, the No. 3 Stone, C SE NE section 34-7-17w, west of the Gotebo area, was completed as a 25-bbl. pumper. Viola lime was topped at 880 feet, with oil showing at 883 to 1,000 feet. Water sand was topped at 1,390 feet; it was drilled to 1,547 feet, total depth, and plugged back to 960 feet to complete.

In Caddo County, Marathon Oil Co. No. 4 Marchland, SW SE NW section 2-5-9w, a location, was the only new work.

In Comanche County, Shirley Clum No. 1 Kindt, NW NW SW section 27-2-10w, was a location.

In Stephens County, Skelly Oil Co. No. 29 Selby, NE SE SW section 26-1s-5w, was a machine; W. G. Endicott and others No. 1 McFatridge, NW NW SW section 11-3s-9w, wildcat, was drilling with machine at 70 feet.

In Jefferson County, L. G. Hydrick No. 1 Peoples National Bank, SW SW SW section 26-6s-5w, was location for a wildcat.

In Harmon County, Lloalko Trust, Ltd., No. 1 Crosnoe, SE SE SW section 14-3-25w, wildcat, was a location.

In Beckham County, Carter Oil Co. No. 1 Davidson, C NW SW section 2-9-25w, was a location.

Burk Royalty Co. No. 4 Minor, NE SE NE section 15-1-20w, in the Altus area, total depth 1,457 feet, pumped 50 bbls. of oil in the first 24 hours and was estimated as a 20-bbl. pumper. Granite wash was topped at 1,452 feet.

Eastern Field Report

By STAFF CORRESPONDENT

EASTERN FIELDS HELD UP BY FLOODS; FINISH FEW WELLS

PITTSBURGH, Pa., Feb. 26.—Few completions were reported from the lower eastern fields during the past week and all work was retarded by adverse and perverse conditions. The severe cold weather was suddenly broken and floods followed. Nine completions were added to the totals of which seven were gas wells and two were producers with an initial production of 40 bbls. There was one unusual gas well in West Virginia and another producer was completed in the Amwell Township pool in Southwest Pennsylvania. Southeast Ohio presented but one new completion.

In Athens County, Southeast Ohio, the Paramount Natural Gas Co. completed a test on the Carbondale Coal Co. lease No. 1 near Carbondale in section 31, York Township, in the Berea grit at a depth of 1,111 feet. It is a gas well gauging 730,000 feet a day.

SOUTHWEST PENNSYLVANIA

There were two completions in Southwest Pennsylvania during the week, one a gas well and the other a fair oil producer. In Amwell Township, Washington County, Fox, Foley and others completed a test on the Weir Rutan (Bert Thomas) farm at a total depth of 2,943 feet. The top of the Fifth sand was at 2,905 feet with oil showing at 2,912-17 feet. It is estimated good for 35 bbls. a day. This well is located along the Fifth sand streak which is being actively drilled.

In this township, the New Oil & Gas Co. is still producing gas from the Fourth sand in its test on the B. A. Bonham (Clarrisa Ramsey) farm. The Union Gasoline & Oil Corp. is down 2,000 feet in the test on the A. O. VanKirk (McClenathan) farm and is shut down testing the casing. Their test on the Thomas Bebout farm is spudding in. William Bungard & Co. are drilling at a depth of 2,780 feet on the Clyde Hinerman farm and the Fifth sand should be reached this week.

In South Strabane Township, Washington County, along this Fifth sand streak, Victor Behm and others reached 800 feet in the test on the William Paul & Son farm and were forced to shut down. No additional hole was made in the test on the Hiram McClain or on the Judson Iams farm.

In East Finley Township, Washington County, Parkinson & Dague are drilling at 2,835 feet in the test on the Chris Ealy farm. In East Bethlehem Township, near Millsboro, the test of James Hagerman and others on the Emory heirs farm is preparing to resume work.

In Greene County, there was one completion. In Springhill Township, James H. Null, agent, completed the No. 3 on the David Null farm at a total depth of 1,898 feet. The Pittsburgh Coal was at 1,119-26 feet and the Second Salt sand at 1,898 feet with about 192,000 feet of gas showing.

In Perry Township, Greene County, the Peoples Natural Gas Co. is down 2,665 feet in deepening the No. 1 on the Eli Headley farm. The Carnegie Natural Gas Co. has reached 2,650 feet in drilling deeper the No. 1 on the Ed Haines farm.

In Morris Township, Greene County, the Duquesne Gas Co. has the rig material on the ground for a test on the Clutter farm, which is in gas territory. In Aleppo Township, Guy B. Patterson is drilling the test on the W. H. Courtwright farm.

In Richhill Township, Greene County, the Manufacturers Light & Heat Co. has reached 2,090 feet in the test on the S. S. Leslie farm. Dan Finnegan shut down the No. 1 on the Walter Rail farm which was being deepened on account of bad weather.

Deep Tests

In South Shenango Township, Crawford County, the Carnegie Natural Gas Co. has resumed drilling the deep test on the Gertrude Scott farm. After considerable trouble shutting off the water in the hole, the casing was lowered and the hole is now dry and has reached a depth of 4,115 feet. The next formation, Silurian, should be reached about 4,300 feet.

In South Union Township, Fayette County, the deep test of William Snee and others on the Summit Hotel property on Chestnut Ridge has made slow progress during the week due to a broken pulley. After it was replaced and the tools run in the hole, it was found there was about 35 feet of caving in the hole which will have to be cleaned out. The depth is around 6,045 feet.

WEST VIRGINIA

There was only one producer completed in West Virginia during the week. In Harper district, Roane County, L. L. Reed completed the test on the A. G. Hinzman farm in the Salt sand at a depth of 1,535 feet. It is showing for 5 bbls. a day along with 200,000 feet of gas.

Gas Wells

In Ritchie County, there was an unusual gas strike. In Grant district, along Bear Run, Moats and Richards and others completed a test on the Stout & Jackson lease, mapped as the Elizabeth Harkness farm, in the Keener sand at a depth of 1,900 feet. It has a volume of 9,000,000 feet a day which is exceptionally high. Reviewing this immediate territory, to the east running north slightly east, there appears to have been drilled a sufficient number of dry holes to limit that side. The north and west is open and insufficiently drilled. Here, the direction of formations appears north slightly west.

In Boone County, the Owens Illinois Glass Co. completed No. 25 on the Peytonia Coal Land Co. lease in Peytonia district in the Berea sand at a depth of 2,445 feet. It is a gas well gauging 435,000 feet a day. In Washington district, the Pond Fork Oil & Gas Co. plugged back the deep test on the Cole & Crane lease, the No. 22, and tested the Shale. It gauges only 23,520 feet a day.

In Calhoun County, Massey & Jarvis completed a test on the Homer Miller farm in Washington district in the Injun sand at a depth of 1,788 feet. It is a gas well gauging 252,000 feet a day from the Big Lime.

In Gilmer County, E. D. Norman and others completed a test on the T. C. Collins farm in the Injun sand at a depth of 1,695 feet. It is a gas well gauging 116,000 feet a day, natural.

Deep Tests

In Malden district, Kanawha County, Godfrey L. Cabot, Inc., has completed running casing in the test on the N. B. Tompkins farm which was set in the Corniferous lime. Drilling is resumed and the tools are about in the Oriskany sand at 5,072 feet. The same operator's test on the William B. Tompkins farm is down 4,773 feet. The No. 9 on the Campbells Creek Coal Co. is drilling at 530 feet.

In Elk district, the Columbian Carbon Co. has five wells drilling. No. 3 on the G. and D. Copenhaver farm is down 2,800 feet and the No. 4 is at 4,500 feet. The test on the W. H. Baxter and others lease is drilling at 3,500 feet. The test on the Elkland Improvement Co.'s tract has been spudded in and drilling now at 400 feet.

In Loudin district, H. C. Zogg and others reached the top of the Corniferous lime at 4,589 feet in the test on the R. H. Dunn farm. It is now drilling at 4,655 feet. The United Carbon Co. is down 300 feet in the test on the C. C. Dickinson farm. The Owens Illinois Glass Co. is spudding in the test on the L. A. Christy farm. In Poca district, W. O. Zeibold and others have reached a depth of 3,225 feet in the test on the D. A. Griffith farm.

In Boone County, the Pure Oil Co. is rigging up No. 79 on the Federal Coal Co. lease in Sherman district and drilling No. 80 at a depth of 1,101 feet. Their No. 41 on the Lafollette, Robson & Prichard tract is in the sand at 2,495 feet and shut down testing. In Washington district, the Owens Illinois Glass Co. is building the rig for a test on the Nelson, Price & Carter farm. In Scott district, the United Fuel Gas Co. is down 1,700 feet in No. 4,582 on the Horse Creek Coal Land Co. tract.

In Cabell County, W. C. Kingery and others are rigging up No. 3 on the Pratt heirs farm in McComas district and which is 750 feet northeast of the No. 2, a good gas well. Pridemore & Adkins are rigging up the No. 2 on the Lucas heirs farm. The Kanawha West Virginia Gas Co. is spudding in the test on the W. E. Farley and others lease and has reached 3,530 feet in the test on the Albert Keenan farm and 2,200 feet on the R. N. Heath farm, both tests. R. H. Adkins and others are drilling at 750 feet in the test on the W. Carter and others lease. The Empire State Gas Co. is cleaning out after shot in the Fay Savage test. R. H. Adkins and others have reached a depth of 3,635 feet in the test on the R. L. Johnson farm. The Fairfax Gas Co. and others are down 1,450 feet in the No. 3 Leonard Paugh.

In Grant district, Cabell County, the Thermal Gas Co. is moving in material for a test on the T. H. Perry farm. In Guyandotte district, Petry and others have completed the rig on the Hans-Watts Realty Co. The Merrits Creek Gas Co. has rigged up the test on the David Gideon farm.

In Calhoun County, no new work is announced. In Lee district, Lyle S. Ayers and others are down 1,000 feet on the Ray Parsons farm, a test. In Sherman district, K. M. Hunt and others have reached 1,100 feet on the Brad Gainer farm.

In Clay County, the Virginian Gasoline & Oil Corp. has made locations for six additional wells on the Brown, Swan, Goshorn and Geary lease in Henry district. Their No. 32 on this lease is drilling at 1,300 feet and the No. 33 at 1,250 feet with locations for Nos. 34 to 39, inclusive. In Pleasant district, the Elk River Gas Co. is shut down testing at a depth of 1,818 feet on the Thompson Land & Coal Co. tract, a No. 1.

In Gilmer County, Leonard Cain and others have a rig completed for a test on the A. S. Moore and F. H. Stewart farm in Center district. The Friendly Oil & Gas Co. is hauling in material for the test on the Gainer and Kuhl lease in DeKalb district.

In Lincoln County, W. C. Kingery and others are rigging up the test on the M. F. Brown farm in Sheridan district. The Empire State Gas Co. has a location on the Sarah E. Midkiff farm in the same district. In Washington district, the Harvard Gas Co. is down 800 feet on the Lincoln Mineral Co. tract. In Union district, the Big Laurel Gas Co. is cleaning out the second test on the Calloway Plumley farm after shot at 2,172 feet.

In Pleasants County, the Borland Springs Oil Co. has spudded in and started drilling a test on the A. O. Bills farm in Jefferson district. The Boyce Drilling Co. and others are shut down testing the sand in the No.

1 on the Solomin Robinson farm in McKim district.

In Raleigh County, Godfrey L. Cabot, Inc., is drilling a No. 10 on the Beaver Coal Co. lease in Slab Fork district which has reached a depth of 2,592 feet.

In Ritchie County, the Evelyn Oil & Gas Co. is down 2,023 feet in the U. G. Bennett test in Murphy district.

Mosser & Collins have a rig standing for a test on the Ada Horner farm. W. H. Bickel is down 1,723 feet on the Dewey Gibson test.

In Roane County, the Litton Oil & Gas Co. is building a rig for a test on the H. B. Young farm in Smithfield district. In Curtis district the Henderson Oil Co. has rigged up for

(Continued on Page 81)

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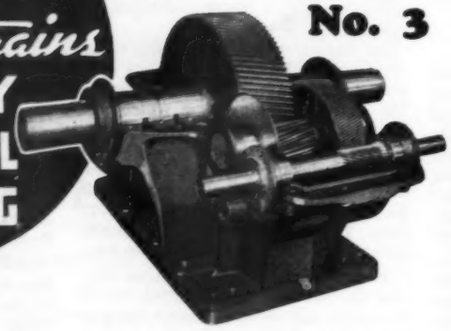

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California Oilfield Operations for January, 1936

Total stocks of crude and all products in Pacific Coast territory increased during January 4,442,362 bbls. Total stocks at the end of the month were 135,071,008 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons)

	Total production	Daily average		
Group No. 1—	January	Jan., 1936	Dec., 1935	Jan., 1935
Belridge—North	296,917	9,578	10,336	5,619
Belridge—South	71,436	2,304	2,385	2,403
Coalinga	661,112	21,326	20,744	18,474
Edison	172,380	5,561	5,239	1,001
Elk Hills	300,962	9,708	9,714	8,353
Fruitvale	231,565	7,470	6,715	3,961
Kern River	510,156	16,457	14,564	10,716
Kettleman Middle Dome	12,883	416	233	500
Kettleman North Dome	3,000,165	96,780	105,310	67,358
Lost Hills	144,691	4,667	5,086	4,493
McKittrick	130,024	4,194	4,110	3,147
Midway-Sunset	1,924,961	62,095	60,788	55,921
Mountain View	1,116,571	36,018	35,507	17,501
Mount Poso	698,649	22,537	21,405	12,457
Round Mountain	316,495	10,210	8,490	4,891
Wheeler Ridge	12,683	409	404	404
Group No. 2—				
Capitan	57,328	1,849	1,802	766
Elwood	499,377	16,109	16,038	5,886
Rincon	64,182	2,071	1,922	1,634
San Miguelito	51,149	1,650	1,353	660
Santa Barbara	67,257	2,170	2,084	4,460
Santa Maria	124,830	4,027	3,893	4,626
Summerland	1,115	36	29	36
Ventura Avenue	1,256,131	40,520	39,340	24,336
Ventura-Newhall	132,782	4,283	4,313	4,025
Watsonville	1,860	60	60	60
Group No. 3—				
Brea-Olinda	309,504	9,984	9,819	9,983
Coyote—East	85,904	2,771	2,674	2,747
Coyote—West	323,195	10,426	10,279	9,380
Dominguez	948,920	30,610	29,350	19,225
Huntington Beach	1,278,419	41,239	42,540	39,084
Inglewood	475,431	15,433	14,859	9,384
Lawndale	8,384	270	263	117
Long Beach	2,412,968	77,838	79,381	62,262
Los Angeles-Salt Lake	23,147	747	834	795
Montebello	247,270	7,977	7,513	5,838
Newport	.....	.....	.....	.....
Playa Del Rey	501,080	16,164	15,125	9,649
Potrero	10,292	332	336	443
Richfield	255,375	8,238	7,454	7,846
Rosecrans	84,843	2,737	2,650	2,314
Santa Fe Springs	1,665,950	53,740	54,360	33,721
Seal Beach	346,809	11,187	11,219	9,399
Torrance	212,774	6,864	6,658	6,302
Whittier	32,089	1,035	1,096	1,062
Total January	21,083,006	680,097	678,284	506,343
Total December	21,026,811	678,284		
Increase	56,195	1,813		

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abnd. wells: Drillers	Abnd. wells: Producers
Group No. 1—							
Belridge—North	2	5	1	750	32	0	0
Belridge—South	0	0	0	0	169	0	0
Coalinga	1	7	0	0	977	0	0
Edison	1	6	4	1,035	60	3	0
Elk Hills	0	0	0	0	168	0	0
Fruitvale	5	7	1	276	82	0	0
Kern River	5	5	6	1,162	1,507	0	0
Kettleman Middle Dome	0	2	1	1,350	3	0	0
Kettleman North Dome	3	31	4	5,127	125	0	0
Lost Hills	0	1	0	0	319	2	0
McKittrick	1	1	0	0	203	1	0
Midway-Sunset	9	9	4	942	2,562	0	2
Mountain View	5	12	13	6,427	126	0	0
Mount Poso	6	4	1	835	201	3	0
Round Mountain	11	1	5	3,225	76	0	0
Wheeler Ridge	1	1	0	0	34	0	0
Group No. 2—							
Capitan	1	1	0	0	15	0	0
Elwood	1	1	1	2,568	64	0	0
Rincon	0	0	0	0	28	1	0
San Miguelito	1	1	0	0	5	0	0
Santa Barbara	0	1	0	0	65	0	1
Santa Maria	0	0	0	0	192	0	1
Summerland	0	0	0	0	19	0	0
Ventura Avenue	2	5	4	2,668	237	0	0
Ventura-Newhall	2	15	1	57	553	1	0
Watsonville	0	0	0	0	7	0	0
Group No. 3—							
Brea-Olinda	0	0	0	0	375	2	2
Coyote—East	0	0	0	0	84	0	0
Coyote—West	0	3	0	0	61	0	0
Dominguez	5	4	3	2,580	105	0	0
Huntington Beach	0	4	5	491	509	2	0
Inglewood	0	0	2	2,950	222	1	0
Lawndale	1	3	0	0	7	1	0
Long Beach	0	13	5	788	1,271	0	1
Los Angeles-Salt Lake	0	0	0	0	128	0	0
Montebello	2	7	0	0	183	3	0
Newport	0	1	0	0	0	0	0
Playa Del Rey	2	5	2	1,006	209	5	1
Potrero	0	0	0	0	11	0	0
Richfield	0	1	1	31	250	0	0
Rosecrans	0	0	0	0	76	0	0
Santa Fe Springs	3	8	2	419	631	0	0
Seal Beach	0	1	0	0	121	0	0
Torrance	2	1	0	0	505	0	0
Whittier	0	0	0	0	161	0	0
Miscellaneous drilling	12	36	0	0	0	5	0
Group No. 4—Gas Fields—							
Buttonwillow	0	0	0	0	24	0	0
Delano	1	0	1	gas	0	0	0
Dudley Ridge	0	1	0	0	0	0	0
Goleta	0	0	0	0	0	0	0
Semi-Tropic	0	0	0	0	0	1	0
Tracy	1	0	2	gas	3	0	0
Total January	87	204	71	34,687	12,766	31	8
Total December	68	214	50	21,344	12,778	37	24
Decrease	*19	10	*21	*13,343	12	6	16
Average for year 1935	86	243	64	55,082	12,136	29	17
Average for year 1934	53	196	38	47,562	11,063	21	17
Average for year 1933	30	124	21	22,842	9,199	14	18

*Increase.

Southwest Texas District

LOWER COASTAL EXTENSIONS CHIEF CENTERS OF INTEREST

By GEORGE WEBER

SAN ANTONIO, Tex., Mar. 3.—Drilling activity in the lower Coastal Region and the Fault Line area during the past week tended to divert the attention of Southwest Texas operators from the Laredo district, busiest section of Southwest Texas at the present time. Increasing activity in the Saxet and Saxet Heights fields of Nueces County, bringing rapid development to this small area is being reflected by a resumption of wildcatting in the surrounding territory. The busy spot of the Fault Line area centers in Frio County, where the Amerada Petroleum Corp. has an extensive drilling program under way in the Pearsall field. This activity is also augmented by wildcatting to the west in Maverick and Zavalla Counties. The lower Rio Grande Valley, particularly Hidalgo County, is bidding for attention in the near future with several deep wildcat tests going down in that area. Meanwhile, drilling in Duval and Webb Counties of the Laredo district continues to hold strong. Scattered wildcats throughout the four sections comprising Southwest Texas are being drilled or projected.

New Wells in Saxet Heights

With eight new producers added during the week, and several more nearing completion on the sand, the Saxet Heights field is still at peak activity. From the volume of applications for drilling permits in that new field, continued increase in development is expected for some time to come. The outstanding factor in the field's progress during the week was the completion of D. H. Hawn No. 1 Josephine Shely, located 3,500 feet northeast of production. The well was washed in late in the week and was nearly cleaned Saturday afternoon. This well, near the Oak Park addition of the city of Corpus Christi, proves considerable acreage.

Another extension to the field was apparent as the Taylor Refining Co. No. 1 John Dunn, located 4,300 feet northwest of the discovery well, and 2,500 feet northwest of production, tested for a good producer. Casing was set and the well will probably be brought in early in the week. Seven new tests were started during the week, with others in the field totaling more than 15 active rigs. The 4,100-foot producing sand of the field is apparently defined on the southeast by the Gordon Clymore or Refugio Refining Co. No. 1 Jonas Weil. This test, located a mile from the field, was coring below 4,800 feet, having failed to pick up commercial production in sands above that depth.

Saxet Field

Much concentrated activity is also to be found in the Saxet field west of Saxet Heights. Clarkwood is the center of the bulk of this drilling. Four new producers were brought in during the week in this field, and one well was temporarily abandoned due to the loss of derrick and rig in a recent blowout. Fourteen wells are drilling, making Nueces County second to Duval County in extent of operations.

In San Patricio County drilling progresses evenly with wells going down in the central and southern parts of the Plymouth field. The Taft field, south of Plymouth, continues to be an unknown quantity, with one producer and two dry holes offsetting it to the north and east. One test is going down to the northwest of the discovery well, and a second will be started offsetting it on the south.

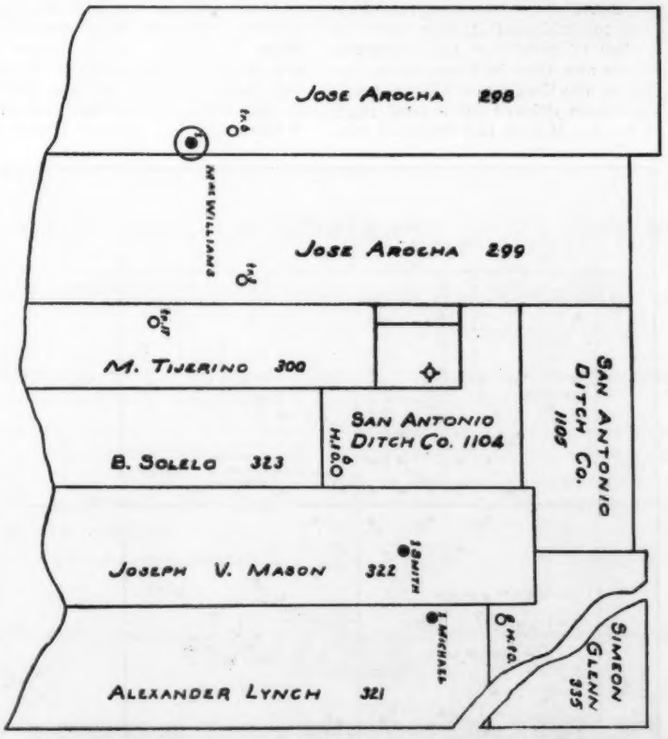
With the starting of five wildcat tests in the lower Coastal Region, exploration of this area saw a considerable spurt during the week. Three of these are in San Patricio County and the remaining two in Nueces County. Benedum & Trees are beginning two deep tests. One, on the Welder ranch, northeast of the town of Sinton, is drilling below surface casing. The other deep test is located south of Taft, and about 3 miles east of the White Point gas field. The third test in San Patricio to get started soon is Willis Storm No. 1-A Hobbs, in the extreme west part, for which drilling contract has been let. Nueces County tests are barely under way with one spudded in and the other with derrick erected. Two other San Patricio County wildcats which are below 5,000 feet are drilling south of the Taft field.

In the Pearsall Area

Additional acreage in the Pearsall area of Frio County was opened when Amerada completed No. 1 Correy & McWilliams, wildcat, located west of the field proper, during the week. The chalk producer bottomed at 5,569 feet gauged 150 bbls. in the first nine hours. Three new tests by the same company on Correy & McWilliams tracts, are being started, while two of the company's rigs are located on the Halff & Oppenheimer leases in the field and are nearing completion. No. 5 is in the chalk at 5,371 feet with a show of oil, and No. 6 has set casing at 5,408 feet. Thornton Davis is drilling below 4,400 feet on No. 1 Halff & Oppenheimer after testing oil and salt water at 4,033 feet.

One wildcat each in Zavalla and Maverick Counties got under way during the week and others are rigging up for additional tests in that region.

Lease blocks in LaSalle County, south of Frio County, are also reported to receive tests in the near future.



Section of the Pearsall field, Frio County. Circle indicates Amerada Petroleum Corp. No. 1 MacWilliams, wildcat recently completed 3 miles west of production in the field. Three rigs are drilling in the vicinity of this new producer. All drilling and completed wells in this section are owned by Amerada

Loma Novia

Loma Novia, most active field in Southwest Texas, received 10 new producers during the week, and one test was abandoned. The test, a south outpost located in Survey 57, tested salt water in the Loma Novia sand and was carried to a total depth of 2,852 feet.

Fifteen locations were made in Loma Novia in the past week. Drilling in this field continues to center about Surveys 76, 77 and 78.

Seven Sisters Field

In northern Duval County, four producers were brought in in the Seven Sisters field. These completions brought added production to the southern and western portions of the field. In view of the new locations announced during the week, totaling 10, Seven Sisters may be expected to continue one of the most active fields for several weeks. In the southwest quarter of the survey, Humble Oil & Refining Co. No. 1 Wright, north outpost test, showed mud, cut with oil, on a test of the sand at 2,502-29 feet and salt water at 2,529-34 feet. The test is drilling below 2,700 feet and has passed the Loma Novia sand.

The Hoffman area south of Loma Novia gained two more locations to total eight with three of these active. Rogers & Rogers No. 1 Cuellar, that company's second producer in the new field, was completed for an estimated 20 bbls. per hour at 2,871 feet.

The two tests on the Government Wells sand near the Eagle Hill field are encountering indifferent success. Trouble in cementing off water sands causes most of the difficulty. Both tests are setting casing deeper for further attempts at completion.

Webb County

In Webb County, the Lopez field was given five new producers and a north outpost well was announced for immediate drilling. It will be drilled for the Luling Oil & Gas Co. in Block 11, Survey 72, on the Peal tract. Six other new locations were made for this field.

Hidalgo County contains the bulk of active rigs in the lower Rio Grande Valley at present. Here three important deep wildcats are going down; and are approaching critical depths. The heavy leasing in this area is expected to introduce several tests in the near future.

One completion and one abandonment were reported for the Samfordyce field. The failure occurred on the west edge in Starr County.

California Field Report

DEEPER DRILLING PROGRAM IN SEARCH OF NEW SUPPLY

By L. P. STOCKMAN

LOS ANGELES, Calif., Mar. 3.—Although prospectors will undoubtedly continue aggressive exploration work during 1936, deep drilling in proven fields may exert far more influence on crude oil production than any production which might be developed in new fields. The probable field discovered last week by the Continental Oil Co. approximately midway between the Rincon and San Miguelito fields is not expected to contribute to any overproduction situation, as the acreage is held in large blocks by the Continental Oil Co., General Petroleum Corp. and the Chanslor Canfield Midway Oil Co. The last named company is preparing to drill an offset to the Continental's discovery well and it is logical to assume that General Petroleum will also undertake offset drilling. These three companies are conservative operators and consequently this new field, located in Padre Juan Canyon, will be conservatively developed and production kept well within bounds.

The extent and productivity of the new field found by Continental Oil Co. is conjectural and must remain so pending additional drilling. This area is badly faulted and fractured and consequently presents a very complex condition. The terrain, as is the case in the San Miguelito field, is rough and hilly. It has an elevation of approximately 500 feet above sea level and will present a number of interesting problems for solution when active development gets under way. The Padre Juan field, although it showed its initial production late in February, is technically not a new discovery. The Continental Oil Co. has been studying this area for the past two years and finally decided to drill a test well. The Continental's geological department has been considering the possibility of developing production in this area ever since the Chanslor Canfield Midway Oil Co. drilled its No. 2 on Hobson lease A. This well, located south of the major fault which defines the northern limits of the San Miguelito field, showed an abnormally large deviation from the vertical and had the unique experience of drilling through the fault and picking up the top oil zone twice. No. 2-A Hobson, which was bottomed at 10,030 feet and which was the first well in the world to reach the 10,000-foot level, had approximately 6,000 feet of oil sand, but even with this abnormally large amount of formation from which to draw the company was obliged to plug back the hole in order to develop small production. This well encountered the upper zone on the south side of the San Miguelito fault and then found the same zone on the north side of the fault due to a downward displacement in the area north of the fault. The Continental Oil Co., realizing the existence of an oil zone north of the fault, decided the area justified exploration work and accordingly a well was started a few months ago. It is interesting to note that the Chanslor Canfield Midway Oil Co. No. 2-A Hobson furnished the incentive to drill and it is within the realms of possibility that discovery of the new field in Padre Juan Canyon by the Continental Oil Co. might have been delayed for several years if No. 2-A Hobson had remained relatively straight and been prevented from deviating northward.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	February 16		February 9			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	.....	391,997
Gasoline	.....	.....	.....	.....	637,915	929,887
Kerosene	157,470	22,496	.....	.....	385,956	78,460
Foreign exports:						
Crude oil	198,904	28,415	110,311	15,759	905,500	1,168,621
Fuel oil	207,455	29,636	45,219	6,460	1,472,541	1,889,930
Diesel and gas oil	76,277	10,897	9,024	1,289	396,223	294,531
Gasoline	315,366	45,052	5,450	779	912,653	433,255
Kerosene	31,101	4,443	.....	.....	54,507	190,511
Other unfinished oil	.....	.....	.....	.....	.....	37,097
Coastwise-domestic:						
Crude oil	182,101	26,014	.....	.....	736,658	1,047,380
Fuel oil	220,718	31,531	72,886	10,412	1,252,313	1,556,031
Diesel and gas oil	22,856	3,265	54,630	7,811	255,624	138,167
Gasoline	372,546	53,221	151,810	21,687	1,789,888	1,172,519
Kerosene	1,691	242	5,846	835	55,289	25,596

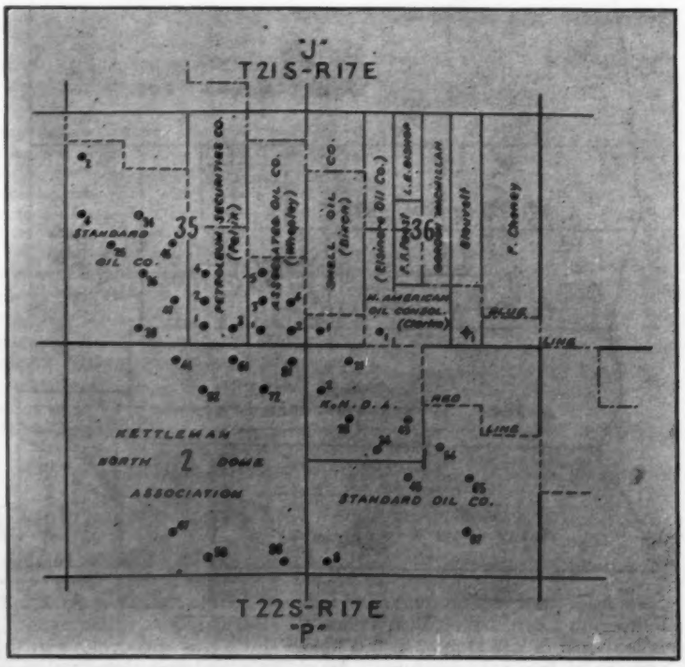
TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	78,075
Kerosene	.....	.....	.....	.....	.....	79,205
Asphalt	.....	.....	.....	.....	.....	71,325
Lubricants	.....	.....	.....	.....	.....	4,095
Foreign exports:						
Crude oil	.....	.....	.....	.....	192,079	357,485
Fuel oil	93,677	13,382	21,780	3,111	252,897	204,009
Diesel and gas oil	.....	.....	.....	.....	.....	74,557
Gasoline	134,942	19,277	.....	.....	588,007	475,317
Kerosene	5,249	1,178	.....	.....	34,927	77,666
Lubricants	16,297	2,328	.....	.....	30,640	22,116
Coastwise-domestic:						
Fuel oil	329,928	47,133	71,311	10,187	1,012,594	469,945
Diesel and gas oil	.....	.....	15,963	2,280	76,898	10,490
Gasoline	160,126	22,875	79,254	11,322	629,170	448,483
Kerosene	.....	.....	.....	.....	15,699	3,880

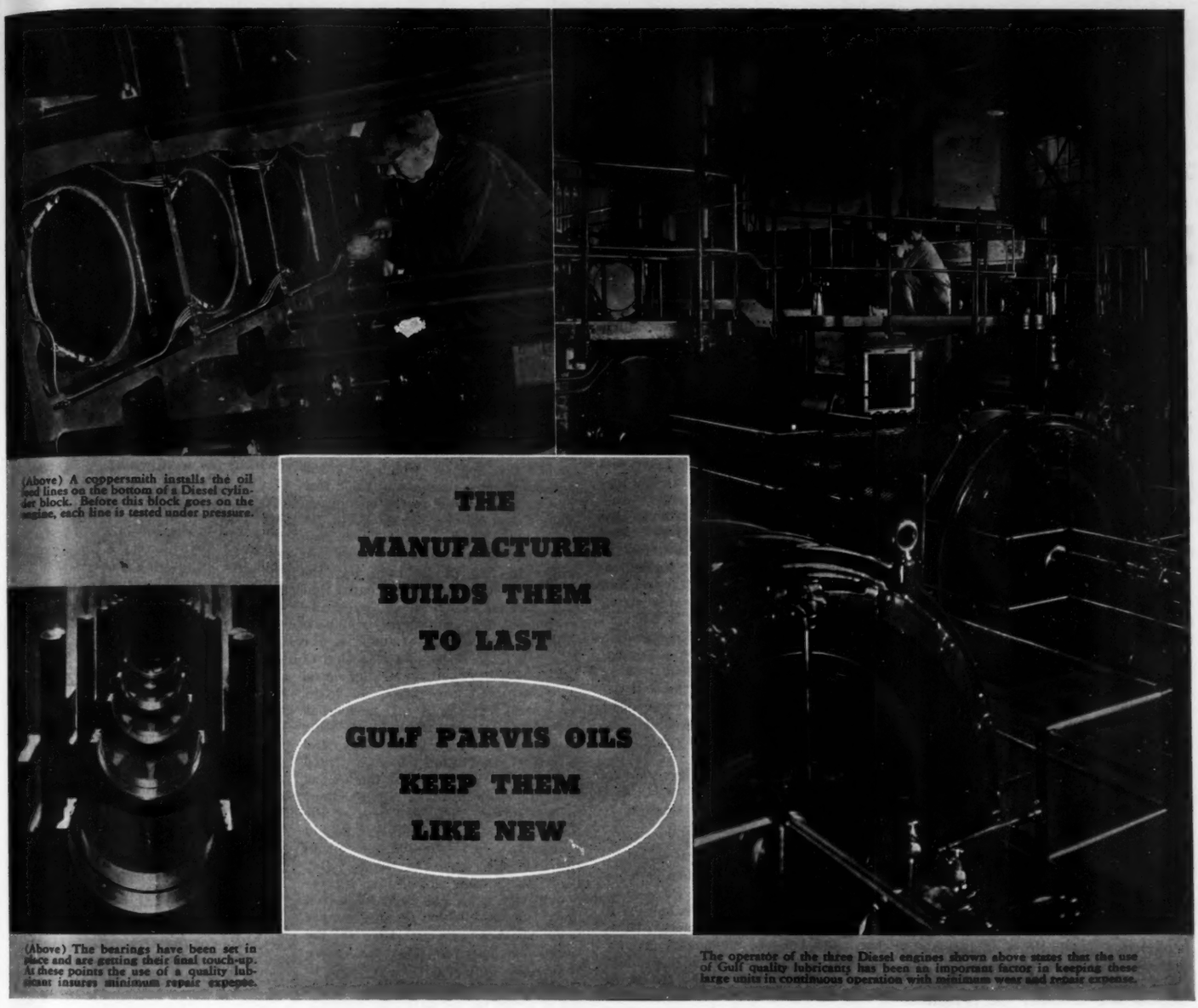
Deep Drilling

In the face of a concerted attempt to secure effective curtailment of production, operators in a number of fields have either started work on deep tests in existing fields or will begin actual work in the near future. In the Santa Fe Springs field, the Wilshire Oil Co. recently tested out No. 4-A Baker at 8,803 feet, but has subsequently plugged back the hole to the upper zone when the lower portion of the well failed to yield commercial production. The diameter of No. 4-A Baker, 4¾-inch, was too small to permit deepening operations. The Bandini Petroleum Co., a subsidiary of Wilshire Oil Co., resumed work on No. 14 Off a few weeks ago at 8,069 feet and it is the expectation that this well will be carried on down as a deep test if the hole can be put in satisfactory condition. It is very likely that the Union Oil Co. and the General Petroleum Corp. will drill one or more deep tests, although both of these operators are desirous of retarding deep zone exploration until a more opportune time. Either may start a deep test in the Santa Fe Springs field before the close of the current year. Santa Fe Springs should have additional productive measures as the lower Clark and Hathaway zones are located in the uppermost part of the Miocene. Several years ago Oscar Howard carried his No. 7 Hathaway down to 9,350 feet but failed to develop deep production. This well, however, was not located as favorably structurally as might be desired and consequently deep zone possibilities in the Santa Fe Springs field have not been determined. It might not be amiss to say, however, that No. 7 Hathaway did encounter some oil showings but the operator was unable to secure production.

It seems almost assured that at least one deep test will be drilled in the Long Beach field of Los Angeles Basin before the current year draws to a close and this field, like Santa Fe Springs, has definite deep zone possibilities. At Long Beach the Shell Oil Co., discoverer of the field and the operator holding the largest amount of productive acreage, is the logical one to engage in deep exploration work. A few years ago, the Shell Oil Co. carried No. 11 Mesa down to 9,280 feet, at which point some very good looking showings were encountered. The company failed to develop commercial production and the hole was plugged back. The oil sand found in No. 11 Mesa indicates a definite possibility of developing deep production with additional depth. The Richfield district is another area which which presents excellent deep zone possibilities and consequently a deep test will probably be drilled in that field in the not far distant future. The Rosecrans field and the Seal Beach field are two other districts which have exceptional merit as far as deep drilling is concerned. The possibilities of deep drilling have been greatly enhanced as the result of similar drilling in the San Joaquin Valley and along the coastal region comprising Ventura and Santa Barbara Counties, where production has already



Whepley area, Kettleman Hills, California



(Above) A coppersmith installs the oil feed lines on the bottom of a Diesel cylinder block. Before this block goes on the engine, each line is tested under pressure.

THE MANUFACTURER BUILDS THEM TO LAST

GULF PARVIS OILS KEEP THEM LIKE NEW

(Above) The bearings have been set in place and are getting their final touch-up. At these points the use of a quality lubricant insures minimum repair expense.

The operator of the three Diesel engines shown above states that the use of Gulf quality lubricants has been an important factor in keeping these large units in continuous operation with minimum wear and repair expense.

You can keep wear and maintenance costs for your Diesel equipment at a minimum with Gulf Quality Lubricants

AMERICA'S Diesel engine builders—more than 50 strong—have approved Gulf Diesel lubricating oils for the engines they build!

This means that regardless of the type of Diesel equipment in your plant, its maker has tested and approved Gulf oils for its lubrication. That gives you real assurance that with Gulf lubricants in service, friction will be reduced to a minimum and you will get maximum protection against wear and operating troubles.

In Gulf's large staff of lubrication engineers are men thoroughly experienced with every problem of Diesel engine operation. If you are not using Gulf products, we suggest that you discuss the matter of lubrication with a Gulf representative. He can be of real assistance to you.

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been developed in the Sespe and upper part of the Eocene, both of which are of an older geological age than the Miocene.

San Joaquin Basin

Considerable interest is being manifested in the production test to be conducted by the Union Oil Co. in No. 7 Gibson in the North Belridge field of Kern County. No. 7 Gibson, located in section 36-27-20, has been bottomed at 9,492 feet in what is considered the upper part of Eocene rocks. This well, based on correlation work, has apparently been bottomed below the present productive Wagonwheel zone of Oligocene age. On a recent test No. 7 Gibson showed salt water and the company accordingly plugged back the hole from 9,492 feet to 9,450 feet. In the South Belridge field, the General Petroleum apparently picked up a zone in No. 1 Berry comparable with that logged in the Union No. 7 Gibson. No. 1 Berry was carried down to 11,377 feet, where mechanical trouble developed and prevented the making of a production test. In the quest for deep zones in present productive fields, General Petroleum may resume work on No. 1 Berry or drill another deep test more favorably located with respect to structure. In the Lost Hills field of Kern County, the Standard Oil Co. is drilling a deep test on the United property in section 2-26-20 and has resumed drilling No. 38-29-V in the Middle Dome of Kettleman Hills, following the failure to develop commercial production in the present productive horizon. In the Shiells Canyon field of Ventura County, the Texas Co. has started a new deep test in section 4-3-19. This well is being temporarily delayed with mechanical trouble at 2,904 feet but an early recovery is anticipated.

Elwood's Deep Possibilities

The Elwood field of Santa Barbara County is another district which justifies deep exploratory work and the production possibilities of this field are expected to be determined in the near future as the Barnsdall and Rio Grande No. 12 Luton Bell is drilling ahead in rocks believed to be of Eocene age. The first oil sand found in the Eocene failed to result in commercial production and drilling operations were accordingly resumed. This well at the present time is nearing the 7,400-foot level. During the past week the Bankline Oil Co. recompleted its No. 7 on the tideland permit No. 89 in the Elwood field and this well was returned to production, flowing 1,350 bbls. of clean 35.4 gravity oil and 862,000 feet of natural gas per day. This well was redrilled and deepened from the Vaqueros to the Sespe, which was topped at 3,493 feet, and the well finished with an 8⅝-inch water string landed and cemented at 3,507 feet. Drilling operations were concluded at 3,639 feet and the hole finished with a 5¾-inch liner including 132 feet of perforated. At least one new deep test is expected to be drilled in the Ventura Avenue field before the close of the current year and the enormous thickness of potentially productive formation should yield additional oil zones. The Chanslor Canfield Midway Oil Co. and the General Petroleum Corp. have already started deepening operations in the Torrance field of Los Angeles Basin and the outcome of this work will be watched with considerable interest. The Chanslor Canfield Midway Oil Co. has already started deepening operations on No. 23 Del Amo and the General Petroleum will begin rigging up No. 2 Carson, located in the north end of the Torrance field. These two deep tests are scheduled to be carried down to the Schist in order to determine whether a productive horizon exists immediately on top of the Schist, as has been found in the Playa Del Rey field and in the El Segundo field of Los Angeles Basin.

Kettleman Hills

Two wells were completed in the Kettleman North Dome field and a check of development work under way indicates the probable completion of several others within the next few weeks. The Kettleman North Dome Association completed No. 6-28-J in section 28-21-17 and this new well was brought in flowing 816 bbls. of clean 37.7 gravity oil and 2,790,000 feet of gas per day. This new well was bottomed at 8,150 feet and finished with a 6⅝-inch water string landed and cemented at 7,808 feet and a 4¾-inch liner carrying 336 feet of perforated. Previously, the Standard Oil Co. completed No. 76-29-J flowing 890 bbls. of relatively clean 35.3 gravity oil and 4,472,000 feet of gas per day. The Standard's new producer was bottomed at 8,230 feet and finished with a 7-inch water string landed at 7,860 feet and a 5¾-inch liner including 360 feet of perforated. The Kettleman North Dome Association has cored an excellent looking oil sand in No. 54-24-H, an outpost located in the extreme western end of the field, in section 24-21-16. The significance which attaches to the oil sand found in this well lies in the fact that it will extend the western limits of production to a substantial extent if commercial production is developed.

Mountain View

In the Mountain View field of Kern County, the Hancock Oil Co. recompleted No. 5 Miller at 5,308 feet. This well was returned to production flowing 1,180 bbls. of clean 24.6 gravity oil and 670,000 feet of gas per day. In the eastern end of the Mountain View field, the Hogan Petroleum Co. passed the 6,000-foot level in No. 1 Peters, an outpost located in section 5-31-19, and the North American was nearing 5,700 feet in No. 1 Peters, an offset to the Hogan Petroleum Co.'s project on the same property. The Shell Oil Co. staked location for No. 8 on Porter lease No. 2, a direct offset of the North American No. 1 Peters. On the Garcia lease, in section 13-30-29, the Standard is rotating ahead in No. 1 at 5,540 feet, but since correlation work indicates that this well is running approximately 400 feet lower structurally than producing wells on adjacent acreage, the outlook cannot be considered any too promising.

Dominguez

Two new wells and one recompletion were recorded in the Dominguez field of Los Angeles Basin during the past week. The Shell Oil Co. completed No. 71 Reyes at 4,465 feet and this new well was brought in flowing 810 bbls. of clean 29.6 gravity oil and 890,000 feet of gas per day. No. 71 Reyes was finished with 8⅝-inch water string landed at 4,209 feet and a 5¾-inch liner carrying perforations at 4,270-75 and 4,401-63 feet. No. 11 Callender of the Union was recompleted after being redrilled and deepened to 5,023 feet and the hole finished with a 4¾-inch liner carrying 72 feet of perforated. This well was returned to production flowing 360 bbls. of 32.8 gravity oil and 540,000 feet of gas per day. No. 38 Callender of the Union was brought in on the beam pumping 105 bbls. of 31.2 gravity oil per day following completion at 6,703 feet after the hole had been finished with 3½-inch liner including 188 feet of perforated.

The Wilshire Oil Co. has resumed drilling on No. 1 Afheldt in the Montebello extension and preparations are being made to redrill, straighten and deepen this hole, on which work was suspended some time ago at 6,352 feet. The decision is due to the encouragement found by the Texas Co. in No. 13 Baldwin, bottomed at 7,039 feet. A formation test showed a little salt water in No. 13 Baldwin but the amount of oil recovered indicated that this mechanical problem might be overcome. The Standard, which is running five strings of tools on the Baldwin lease in the older section of the Montebello field, is rigging up on two additional projects on the lease. The Shell Oil Co. No. 1 Amebco in the Long Beach field is rotating ahead at 6,000 feet. In the Playa Del Rey field, the Union has just drilled out cement following the landing of a string of 6⅝-inch in No. 15 Vidor at 6,079 feet. This well topped the Nogular shale at 5,982 feet and should be ready for a production test within the next few days. On the Del Rey lease, the Union is building rig for No. 13 but work has been hampered by heavy rains which flooded a large part of the property. Due to the sloppy condition of this area extensive road building is necessary to facilitate work and permit the building of a dirt fill of sufficient strength to support the derrick and drilling equipment.

Midway-Sunset

Two new wells were completed in the Midway-Sunset field of Kern County. The Standard No. 64 M. J. M. & M., finished at 2,620 feet and completed with an 8⅝-inch water string landed and cemented at 2,390 feet and a 7-inch liner including 231 feet of perforated, was brought in on the beam pumping 407 bbls. of exceptionally clean 22.8 gravity oil per day. The Richfield Oil Co. No. 11 in section 36-12-24 was finished pumping 229 bbls. of clean 22.8 gravity oil per day following completion at 2,479 feet and the use of a 6⅝-inch liner carrying 135 feet of perforated.

The Western Gulf Oil Co. added a well to the Fruitvale field by completing No. 19-B on the Kern County Land Co. lease in section 22-29-27. It was brought in flowing 299 bbls. of relatively clean 22.9 gravity oil per day at a total depth of 3,889 feet. The company landed an 8⅝-inch water string at 3,635 feet and finished the hole with a 6⅝-inch liner carrying 265 feet of perforated. No. 18-B on the same lease was cemented early in the week at 3,331 feet with the bottom of the hole at 3,668 feet and accordingly should be ready for a production test within the next few days. The crew from No. 19-B was moved over to No. 20-B and preparations started immediately to spud in this new well. The Elliott Core Drilling Co. has abandoned its outpost in section 14-29-27 following the failure to develop commercial production. The Mohawk Oil Co. is putting the finishing touches on the new rig to be used in the drilling of its well in section 23-29-27 and unless something unforeseen develops the bit in this project should begin making hole within the next week.

Gas Well

The Ohio Oil Co. finished another gas well in the Buena Vista Lake gas field of Kern County a few days ago but the output was rather small. The Ohio's new producer was No. 5-A on the Kern County Land Co. lease in section 31-31-26 and it showed an initial daily production of 3,000,000 feet of dry gas following completion at 5,258 feet. The well was finished with a 4¾-inch liner carrying 90 feet of perforated. It was shut in before completion due to a lower demand for natural gas and the lack of pipe line facilities to move production out of the field. The Seaboard Oil Co., which is prospecting several thousand acres of potentially productive land held jointly by Seaboard, Associated Oil Co. and General Petroleum Corp., has reached a depth of 2,500 feet in No. 1 Welsh in section 30-16-14, in Fresno County. This well, the third project to be drilled on this spread of leases, is being drilled in search of a new gas field. In the Delano gas field, the Standard Oil Co. is rotating ahead in No. 1 Tulare Farms at 2,800 feet but it will probably be another two weeks before the bit reaches the depth at which the productive horizon is anticipated. The Delano gas field is located at the junction of Kings, Kern and Tulare Counties and is consequently of interest as the productive limits have already been extended into two of the three counties.

The Inter-Ocean Oil Co. has placed drilling material on ground for a wildcat to be drilled on the Laguna Rancho property in Santa Barbara County and spud is expected to be made within the next 15 days. This test is located about 5 miles north of the town of Los Olivos and approximately 12 miles southeast of the Gato Ridge field discovered by the Barnsdall and Rio Grande a few years ago. The Union Oil Co. has not yet started active drilling operations on either its No. 1 Sudden or No. 1 Adam as the recent rains have made the roads to each location almost impassable. A similar condition has been encountered in the Tulare Lake region where the company was forced to suspend drilling operations a few weeks ago at 2,913 feet because access to the rig was found impossible. The ground has been drying out in good shape the past week and it is logical to assume that the company will resume work on all

(Continued on Page 74)

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Jan. 31, 1936	Dec. 31, 1935	Jan. changes	Jan. 31, 1935
1. Non-gasoline-bearing crude, residuum, gas and diesel oils	70,055,178	68,201,291	+1,853,887	66,272,552
2. Gasoline-bearing crude	40,642,706	38,950,469	+1,692,237	37,820,438
3. Unblended natural gasoline	1,750,613	1,568,182	+182,431	2,700,357
4. Gasoline (not including distributing and service stations)	11,407,921	10,760,001	+647,920	10,778,952
5. Naphtha distillates	*1,916,722	*1,695,564	+221,158	*1,140,565
6. All other stocks	†9,297,868	†9,453,139	—155,271	†7,882,202
Total	135,071,008	130,628,646	+4,442,362	126,595,066
a. Estimated amount of unfinished gasoline contained in item No. 5	1,507,921	1,333,084		884,779
b. Coke included in item No. 6	448,211	456,766		562,643

Texas and Louisiana Gulf

By
F. L. SINGLETON

McCARTHY'S TEST IN AMELIA RUNS HIGH ON STRUCTURE

HOUSTON, Tex., Mar. 3.—The prospects of a 2-mile northwest extension for the Amelia field, northern Jefferson County, were favorable at the close of the week, as important geological markers reported from Glenn H. McCarthy No. 1 Longe, placed the well over 200 feet structurally higher than the discovery well.

The Discorbis was topped at 5,377 feet, Heterostegina at 5,391 feet, Marginulina at 5,826 feet and the Frio at 6,098 feet. Based on the latter marker it is checking 242 feet higher than Humble Oil & Refining Co. No. 1 Langham, the discovery well, which topped the same formation at 6,350 feet and 52 feet higher than the company's No. 1 Miller, an abandoned test, which is the highest of the three wells drilled on the structure. No. 1 Miller was abandoned at 6,470 feet or 300 feet above the pay. Under these conditions, No. I Longe is expected to encounter the oil sand slightly below 6,500 feet. Late in the week it was coring ahead below 6,225 feet.

Since encountering the Frio section, the operators have made a careful study of all formations and made one drill stem test at 6,052-6,118 feet that lasted four minutes and showed gas and salt water. Sand, with no showings, was cored at intervals from 6,118 to 6,195 feet; broken sand and shale at 6,195-6,205 feet; sandy shale with no show at 6,205-15 feet and sand and streaks of sand at 6,215-25 feet. The last 3 feet of this cored was clean sand and showed gas and salt water.

Well Spacing

Following an all-day hearing before the Railroad Commission at Beaumont February 27 regarding spacing of wells in the Amelia area, it was announced by Commissioners Ernest Thompson and Lon A. Smith that a careful study will be made of all testimony and another hearing will be called within about 30 days, at which time a decision will be rendered; in the meantime the 16 applications for permits to drill on small acre tracts will be held up.

The meeting was attended by some 500 persons, many of whom were small property owners holding a few acres each in the new field. They were practically unanimous in asking that no restrictions be entered as to the number of wells that might be drilled on their property. Humble Oil & Refining Co. and Stanolind Oil & Gas Co., two of the largest lease holders in the field, advocated a 20-acre spacing program. They were represented by their attorneys and geologists who reviewed technical reasons for favoring some restrictions on the number of wells, presenting the economic as well as the physical dangers involved in drilling too close together.

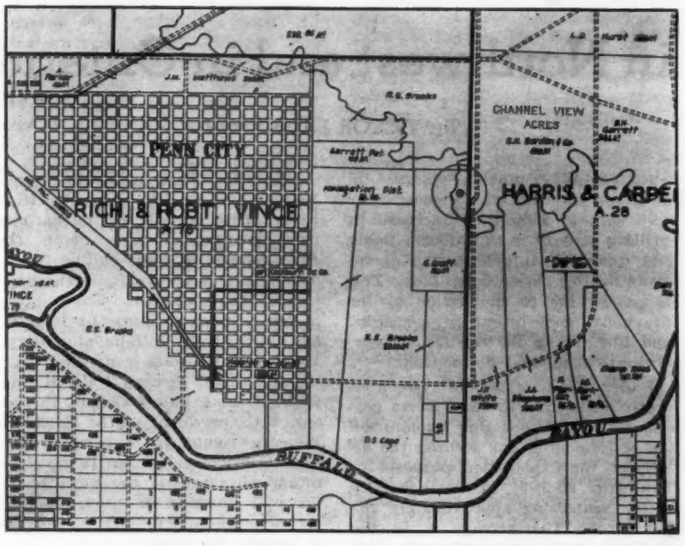
Garwood Showing

Another encouraging showing of oil and gas has been encountered in Sterling Oil & Refining Co. No. 2-B Powell, located in the Garwood area, southern Colorado County. After the hole was plugged back from an original depth of 6,755 feet and sidetracked at 5,800 feet, it topped sand at 5,921 feet showing oil and gas and is coring ahead in sand below 5,927 feet. This is the same sand that was cored several weeks ago and tested 450 feet of oil on a drill stem test from 6,105-20 feet. It will probably be cored to around 6,100 feet, at which time a production test will be made. Location is in section 45, I.&G.N. Survey.

Hamman Exploration Co. No. 1 May Cleveland, located southeast of Bay City in Matagorda County, reported last week as preparing to test, is waiting for cement to set after making a squeeze-out cement job, which resulted, it is said, from a faulty cementing job after 1,400 feet of 5-inch casing had been cemented from 8,350 feet. The hole is bottomed at a corrected depth of 9,439 feet and is being tested after an electrical coring test is reported to have shown several possible oil sands. Location is in the E. Hall Survey.

South Houston

Although no gauge has been reported, Stanolind Oil & Gas Co. Drilling District No. 5, located in the South Houston field, Harris County, is reported to have been completed for a good well. It is bottomed at 4,780 feet with 5½-inch casing cemented at 4,764 feet. The same company's District No. 25 topped oil sand at 4,647 feet and is waiting for cement to set. Seven-inch casing was cemented at 4,616 feet. On the west side of the field in Block 138, Sterling Oil & Refining Co. No. 1 Summers is coring in sand and shale with an odor of oil, below 4,894 feet. Drill stem tests were attempted from 4,835 to 4,870 feet, but the seat failed to hold. Showers and Moncrief are the latest independents to enter the field and their No. 1 S. S. Vallos, located in the Mary Nichols Survey, is shut down at 1,260 feet with the drill stem stuck.



Map shows location of Harlyn Oil Corp. No. 1 Harris County, Houston Ship Channel, located in the Penn City area

(Map courtesy of W. W. Zingery, Second National Bank Building, Houston, Tex.)

Anahuac Field

In the north extension area of the Anahuac field, Chambers County, Sun Oil Co. is preparing to complete Nos. 7 and 8 White, located in the J. McGahey Survey. No. 7 White cored oil sand to a depth of 7,084 feet and has cemented 7-inch casing at 7,036 feet. No. 8 White is bottomed at 7,080 feet and is preparing to test after cementing 7-inch casing at 7,030 feet. To the south in section 51, H.&T.C. Survey, Humble Oil & Refining Co. No. 4 Broussard-Hebert topped oil sand at 7,046 feet and is preparing to test at a depth of 7,083 feet.

Stanolind Oil & Gas Co. No. 1 Cooper, a west offset to the discovery well of the Turtle Bay field, Chambers County, has been completed. Its initial production was 117 bbls. in 24 hours through a quarter-inch choke, with tubing pressure 100 pounds, after the hole was plugged back to 6,611 feet. It was originally tested at 6,625 feet, but showed salt water and oil, and was deepened to 6,630 feet before it was plugged back to its present depth. Location is in the S. Burney Survey.

Leases on 34 tracts of submerged land totaling 44,680 acres and located in Galveston Bay were awarded by the state of Texas the past week. Humble Oil & Refining Co. is reported to have paid $70,695 cash and $13,878,000 to be paid out of one-fourth of 41/48th of the oil produced, the other 7/48ths being offered as a royalty. The total acreage involved was 21,323 acres. The balance of the acreage went to independent operators.

Estimated production of the principal pools in the Gulf Coast for the week ending December 27 follows:

TEXAS COAST

Anahuac	4,090
Barbers Hill	16,206
Conroe	42,512
Hastings	5,136
High Island	6,347
Hull	5,675
Humble	3,200
Manvel	6,673
Mykawa	3,364
Pierce Junction	4,127
Sugarland	5,487
Thompson	10,915
Tomball	6,310
Dirks	2,867
Greta	15,812
Pettus	4,068
Plymouth	5,300
Refugio	4,489
Saxet	5,634
Tomoconnor	3,215
Miscellaneous	54,603
Total	217,530

LOUISIANA COAST

Black Bayou	3,387
Bosco	15,009
Bayou St. Dennis	4,307
Caillou Island	9,876
Cameron Meadows	5,685
Gillis	13,827
Iowa	18,410
Lake Barre	9,223
Leesville	14,328
Roanoke	5,787
Sulphur	3,114
Miscellaneous	29,774
Total Louisiana	132,727
Total Gulf Coast	350,257

Pickett Ridge

In the Pickett Ridge field, Wharton County, Texas Co. is preparing to complete two wells. No. 1-A Pierce is bottomed at 4,704 feet and is being tested through perforated casing at 4,694-96 feet. No. 11-A Pierce is bottomed at 4,709 feet, with 7-inch casing cemented at 4,702 feet. Both wells are located in the I.&G.N. Survey. To the south in the Withers field, the same company has plugged back No. 2-C Pierce after it sanded up shortly after being completed last week at 5,563 feet. Location was made for No. 1-"B" Pierce. It is 1,400 feet out of the southwest corner of the Pierce Estate in the E.T. R.R. Survey No. A-108. To the northeast in the East Bernard area, Sterling Oil & Refining Co. is building

derrick for No. 1 Agnes Genzer, located 466 feet out of the southeast corner of the west half of the Genzer 160-acre tract in the Jonathan Scott Survey. This is the second test drilled in the area by the company. The first test was abandoned after showing some oil, gas and salt water at a depth below 8,600 feet.

Hastings Field

Three wells have reached the sand at the Hastings field, Brazoria County, and are scheduled to be completed during the week. They are Humble Oil & Refining Co. No. 3 Cannon, bottomed in oil sand at 6,050 feet with 7-inch casing cemented at 5,960 feet; Stanolind Oil & Gas Co. No. 1 R. L. Autrey is preparing to test at a total depth of 6,080 feet and the company's No. 4 Shaw is running 7-inch casing after coring oil sand to 5,715 feet. All of the wells are located in the H.T.&B. Survey No. 36. The latter company made locations for two tests. No. 1 Meyer is located in the H.T.&B. Survey No. 36, while No. 1 C. D. Brown is located in the H.T.&B. Survey No. 29, and is the first well to be drilled in this survey.

Louisiana Coast

Encountering two new sands at the St. Martinsville field in St. Martin Parish and the Jeanerette field in St. Mary Parish, together with the favorable showings of two wildcat tests, were the featured developments along the Louisiana Coast the past week.

Tide Water Oil Co. No. 2 Smedes, located southwest of the discovery well of the St. Martinsville field, St. Martin Parish, is plugging back from a depth of 8,714 feet to sidetrack after the drill stem became stuck one joint off bottom, while the operators were mixing mud and circulating in attempt to prevent a blowout. The high pressure gas sand was encountered from 8,709-14 feet. At this depth the new sand is over 3,000 feet deeper than that of the discovery well which is producing from Miocene sand at 5,582 feet.

New Pay in Jeanerette

At the Jeanerette field in St. Mary Parish, Herton Oil Co. No. 2 Roane, located 825 feet south of the company's discovery well, topped a sand at 6,653 feet and at a total depth of 6,665 feet, a 15-minute drill stem test showed 42 stands of 36.5 gravity oil with a good blow of gas, and the operators have cemented 9⅝-inch casing on top of the sand. This sand is several hundred feet higher than that in the discovery well, which is producing from a plugged back depth of 7,498 feet. Location is in section 40-12s-5e.

Shell Petroleum Corp. No. 1 Lacassine, located on the Hayes prospect, southern Jefferson Davis Parish, encountered a second showing of gas at 9,613 feet and after conditioning the mud the operators are coring ahead in shaley sand below 9,628 feet. The first sand which attempted to blow out was cored from 9,341-49 feet. Location is in section 20-11s-5w.

At the Convent prospect, north of the Mississippi River in St. James Parish, Shell Petroleum Corp. was reaming to make a drill stem test in oil sand encountered at 4,527-38 feet, total depth. This is the third showing made and it is being watched very closely. This prospect was taken by the company last year and has been worked extensively with both torsion balance and reflection seismograph. It is located in section 5-12s-5e.

At the Jefferson Island field, Iberia Parish, Jefferson Lake Oil Co. is preparing to test No. 274 Lake Pegneur after setting a short string of 5-inch liner at a plugged back depth of 8,484 feet. It topped oil sand in the sidetracked hole at 8,475 feet and after drilling in salt to a depth of 8,610 feet it was plugged back to its present depth. It is located in the lake bed in Township 12s-5e, and if productive will open the first production for this old dome which is being mined for salt and sulfur.

Continental Oil Co. No. 1 D. J. Miller, located in the Tepetate field, Acadia Parish, was plugged back and after perforating casing from 8,303-13 feet, it flowed 276 bbls. in 16½ hours through a one-quarter inch choke with tubing pressure 2,400 pounds and casing pressure 2,500 pounds. Location is in section 28-7s-2w.

In the Thornwell-Lake Arthur area of Jefferson Davis Parish, Continental Oil Co. is reported to have taken approximately 20,000 acres under geophysical option. The majority of the acreage centers around Township 11s, Range 4w, and is east of Stanolind Oil & Gas Co.'s holding in Township 11s-5w, which lies between the Hayes prospect that is being explored by the Shell Petroleum Corp.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Feb. 29.—Indications are that the present year will witness a marked increase in drilling activity in the Alberta fields, and especially in wildcatting operations by the major companies. This is partly due to the action of the provincial government in modifying and liberalizing the regulations governing leasing and development.

Under the new permit system recently authorized by the Alberta government, the Altoba Gas Exploration Co. of Edmonton has secured the allotment for exploration purposes of Township 66-2w5, in northern Alberta, comprising approximately 23,000 acres. The acreage is in the Flatbush area, approximately 100 miles northwest of Edmonton. The nearest rail point is Flatbush, on the railway from Edmonton to Peace River. The area has never been tested for oil or gas. The nearest drilling was by Crudome Oils, Ltd., in Township 74-24w4, north and east of Flatbush, and by Athadome Oils, Ltd., in Township 66-23w4, near Athabaska Landing. The latter drilling showed some gas.

The Altoba Gas Co. is affiliated with the Canadian Western Natural Gas Co. of Calgary and Northwestern Utilities, Ltd., of Edmonton. It has drilled three tests in western Saskatchewan, southeast of the Lloydminster field, but failed to get any large production. As the Flatbush area is muskeg country, work will not likely begin till late May or early June; and a commercial test will likely be preceded by a seismographic survey or core drilling.

Arca Deep Test

East of Turner Valley, No. 1 test of Arca Development Corp. has been tentatively spotted in NE section 24-18-1w5. Location is approximately 9 miles almost due east of Highwood-Sarcee Oils No. 2 in South Turner Valley, and a little west of High River. Drilling will test an entirely new structure at great depth, the Arca company's plans calling for 7,500 feet if necessary for a thorough test of the structure. The venture is being financed jointly by Royalite Oil Co., Calgary & Edmonton Corp., Ltd., and interests connected with the Canadian Western Natural Gas, Light, Heat & Power Co. H. R. Milner, K.C., president of the Canadian Western company, is head of the Arca Development Corp. Heavy duty rotary equipment of the Royalite Oil Co. will probably be used, and the Royalite production staff is expected to handle the work.

The company's holdings include 38 sections of crown lands, 5 sections of school lands and 41 sections of freehold lands, in Townships 17, 18 and 19, Ranges 29w4, 30w4 and 1w5. The acreage is unitized for royalty purposes. Arca No. 1 will spud about the middle of April.

New Rental Terms

Under the new rental terms authorized by the Alberta government in connection with oil and gas exploration, it is possible for a company to reserve an extensive acreage for exploration for an initial payment of 10 cents an acre. The reservation is good for 12 months and can be renewed for 6 months additional. Acreage ultimately selected and retained for actual development requires an additional rental of 50 cents an acre. The arrangement is designed to permit the retention of extensive areas for preliminary seismographic or structure testing at slight rental cost.

North Turner Valley

In the North Turner Valley field, Royalite Oil Co. No. 27, LSD 4, section 23-20-3w5, is deepening into production after cementing casing in the Madison lime at 5,212 feet. It got the lime around 5,180 feet. Model Oils No. 3, LSD 1, section 22-20-3w5, is testing production in the lime at 6,240 feet.

South Turner Valley

In section 21-18-2w5, South Turner Valley has rotary outfit rigged to deepen from 2,307 feet where 13-inch casing was cemented. This is the farthest south test in the field. Farther north in the same section, Union-Freehold Oil Corp. No. 1, LSD 8, is gradually clearing itself of water but there is only a slight increase in the wet gas previously reported around 2,500,000 feet a day.

In section 28-18-2w5, Turner Valley Royalties No. 1, LSD 13, is deepening below 3,910 feet after getting the cardium sandstone marker between 3,570 and 3,580 feet. British-American Oil Co. has a royalty interest in this test which is being finished with rotary tools. Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, same section, is preparing to deepen into the lime from 6,020 feet.

Drilling in Ontario

In the southeast extension of the Dover field, Kent County, Ontario, E. P. Rowe No. 2, Louis Bruette farm, Lot 5, Front Concession, Raleigh Township, got the Trenton limestone low at around 2,955 feet, and is deepening. In the main field, Central Pipe Line Co. No. 5, Eli Jubenville farm, Lot 2, Front Concession, Dover West Township, is temporarily shut down at 2,200 feet. East of the proven field, Massey Oil & Gas Co. No. 1, Wm. Cook farm, Lot 12, Front Concession, Dover East Township, has finished pulling casing and is dismantling the rig. Owing to the death recently of Harold Massey, president, the company will be liquidated and projects at one time contemplated for extensive wildcatting east of the field and south of Pain Court will be dropped.

In the Tilbury field, Kent County, Kent Oil & Gas Syndicate No. 1, Mrs. Beatrice Gifford farm, Lot 10, Concession 14, Tilbury East Township, is shut down at 840 feet.

In the Dawnfield, Lambton County, G. F. Gregory & Son No. 1, Lot 22, Concession 3, Dawn Township, will likely be abandoned owing to a difficult fishing job at 1,150 feet. Gregory No. 2, Lot 22, Concession 2, is shut down at 1,110 feet.

In the Eden field, Elgin County, Olga Oil & Gas Co. No. 2, Claude A. Wilson farm, Lot 24, Concession 8, Bayham Township, has resumed and is drilling below 300 feet.

Texas Spacing Law

AUSTIN, Tex., Mar. 2.—The supreme court refused to interfere with trial and civil appeals courts judgments setting aside a railroad commission order granting a permit to T. C. Adams to drill a well in East Texas under an exception to the general spacing rule. Marathon Oil Co. opposed the permit.

Mr. Adams contended the commission by decisions in this and other cases converted rule 37 from its original purpose of preventing waste into a rule of property "under which courts attempt to say that no man shall get more than his fair share of recoverable oil beneath the surface and disregard the basis of the rule."

North Louisiana, Arkansas

ELEVEN NEW WELLS KEEP UP HIGH AVERAGE OF RODESSA

By J. R. CRUMPTON

SHREVEPORT, La., Mar. 3.—The Rodessa field had one of the best weeks since its discovery last July with 11 completions, but the two key wells, one possible extension to the northeast and the other about 1 mile northwest of production, were sore disappointments. Keeping pace with Rodessa interest is an unparalleled activity throughout Northwest Louisiana and South Arkansas. Two wildcats, however, one in each district, developed barren results on test during the past week, but neither are necessarily failures at the present depths.

Haynes Production Co. No. 1 Zylks, SE cor. section 9-23-16, about 1 mile west and north of hot-spot production, Rodessa, was completed making 5,000,000 feet of gas and 264 bbls. of distillate daily through five-sixty-fourths inch tubing choke. The total depth was 5,994 feet, subsea depth of 5,779 feet; casing pressure registered 700 pounds and tubing pressure 200 pounds. On account of checking somewhat higher than Vaugh Production Co. No. 1 Comegys in SE cor. section 10, 1 mile to the east and which showed practically the same results on completion, the Zylks test was expected to be a producer. However, it proved to be on the northern edge of the downdip and an offset to the south may prove successful.

Lion Oil Refining Co. No. 1 J. M. Wynn, NW SW section 9-23-15, a potential 2-mile northeast extension, had practically the same results. The hole was plugged back to 6,012 feet after testing salt water from old total depth of 6,157 feet. The 7-inch casing was shot at various depths from 5,800 feet to 6,107 feet and on test made 15,000,000 feet of gas and 15 bbls. of distillate per hour through five-sixteenths inch tubing choke. Tubing pressure registered 1,750 pounds and casing pressure 2,000 pounds. Top of Hill sand, first gas-producing horizon, was logged at 5,862 feet, Gloyd sand at 5,979 feet and the Young saturated lime at 6,150 feet. The subsea depth on the original bottom hole was 5,816.4 feet and after plugging back was 5,671.4 feet, the water level generally conceded to be at 5,785 feet. The test may be located too far on the updip toward the gas area, but on the other hand, it appears to be off structure to the north on the downdip and production is possible between it and the fault line to the south.

Bartex Test

On the same northeast trend but within production lines, Bartex Pipe Line Co. No. 1 Rodessa Oil & Land Co., NE cor. NE SE section 13-23-16, made only 252 bbls. in 18 hours through various tubing chokes from three-sixty-fourths inch to nineteen-sixty-fourths inch. The total depth was 6,010 feet, subsea depth of 5,766 feet which is 19 feet above the water level, and the hole may be deepened to increase the flow. It registered 5,000,000 feet of gas with 800 pounds tubing pressure and 700 pounds casing pressure.

Other Rodessa completions were: Haynes Production Co. No. 8 Lawton, section 14-23-16, 43 bbls. per hour through 1¾-inch tubing choke from 6,015 feet; No. 2 Tyson, same section, 172 bbls. per hour on 1¾-inch choke on tubing from 6,082 feet; No. 1-B Mattie Pitts, section 12-23-16, 135 bbls. per hour through same size choke from 6,029 feet. Pelican Oil & Gasoline Co. had three completions, all in section 14-23-16. No. 10 Sexton gauged 34 bbls. per hour through quarter-inch tubing choke from 6,019 feet; No. 11 Sexton, made 100 bbls. in 12 hours with 5,000,000 feet of gas from 6,034 feet; No. 12 Sexton, 30 bbls. per hour on quarter-inch tubing choke from 6,023 feet. Casing was perforated from 6,009-19 feet and the hole deepened from 6,015 feet after testing only 5 bbls. per hour from that depth a week ago. United Gas Public Service Co. also turned in three completions: No. 10 Rodessa Oil & Land Co., section 22-23-16, made 42 bbls. per hour from 6,013 feet. In section 13-23-16, its No. 3 Tyson Unit gauged the same flow from 6,033 feet after setting a short string of 5-inch casing at 6,000 feet. No. 5 Tyson Unit is a 63-bbl. per hour gusher from 6,025 feet. All of the wells were gauged through half-inch tubing choke.

Cass Extension

An extension to the west in Cass County, East Texas, was recorded by R. W. Norton No. 1 Mary Rives, John Collum Survey. The well made 72 bbls. per hour through five-sixteenths inch tubing choke from total depth of 6,057 feet. Top of saturated lime was logged at 6,045 feet, tubing pressure registered 700 pounds and casing pressure 900 pounds. United Gas Public Service Co. Nos. 1 and 2 J. R. Jones unit, about one-half mile inside the Cass County line, are making good progress. The former topped chalk rock at 2,035 feet, base at 2,580 feet and is drilling at 3,840 feet. The latter is drilling in lime and shale at 4,976 feet, having logged red beds at 3,375 feet.

Pressures Keep Up

A report that a few of the wells in the Rodessa field were not making their allowable of 500 bbls. daily because of decreased bottom-hole pressure is an error. A small number of wells are probably not making their daily allowable, but it is not because of decreased bottom-hole pressure, as this has not diminished to any extent whatsoever since the field's discovery. The wells in this catagory are too far up on the gas area or updip toward the fault line and have a tendency to increase in gas flow and decrease in oil production. A few of them are making distillate and a good flow of gas. This holds true relative to a few tests on the northern flank that were completed from the upper gas horizons after failing to make oil wells from the Young saturated lime.

Several of the major operators in the Rodessa area have reduced their daily runs voluntarily with additional pipe line outlets in sight. They are inclined to let their unused balance remain in the ground rather than run into steel storage. Magnolia Petroleum Co. has started construction on an 8-inch line to the field from its main El Dorado-Beaumont line, connecting at Dixie, a distance of about 25 miles. The East Texas Refining Co. is reported unloading 8-inch pipe and will construct a welded line to its refinery at Longview. This company is also constructing two 55,000-bbl. tanks at Rodessa. Standard Oil Co. of Louisiana and Gulf Refining Co. have 8-inch lines into the field, but the former limited its daily take about two months ago to 15,000 bbls.

A Disappointment

Producers Oil & Gas Co. No. 1 Edwards, section 27-18-11, about 3 miles northeast of the Sligo field, Bossier Parish, abandoned the hole as dry at 3,200 feet. It had been looked upon as a deep test and a possible extension of the 5,000-foot Oolitic lime producing level which was recently uncovered nearer the field by this company. In Bienville Parish, southwest of the Lincoln Parish gas field at Simmsboro, Texas Seaboard Oil Co. No. 1 F. E. McGee, section 3-16-6w, made a drill stem test from 5,660 to 5,739 feet. Base of massive anhydrites was logged at 5,454 feet and stringer at 5,662 feet. The crew is reaming to bottom for deepening.

More than a dozen new blocks have been assembled or are in the making in the North Louisiana area on potential geophysical highs. J. P. Evans, independent operator of Shreveport, is moving in rig on No. 1 T. Crichton estate in section 35-18-9 in the Dubberly area. It is located on a hot spot recently surveyed by several seismograph crews. Standard Oil Co. of Louisiana has about 8,000 acres in that area and in all probability is cooperating in drilling the test. About 2 miles northeast of Ruston in Lincoln Parish, Arkansas-Louisiana Gas Co. is rigging No. 1 C. E. Causey in section 32-19-2w. Boucher & Pace has set 10-inch casing at 890 feet on No. 1 Frost-Johnson in Union Parish. All of the above tests will be to the Oolitic lime horizon of the Glenrose or deeper. Triangle Drilling Co. is moving in rig to deepen No. 1 Kilpatrick, section 7-19-5w, on the southeastern flank of the Sugar Creek field in Claiborne Parish. The well, originally completed as a small gasser from 4,458 feet, also made a good show of oil when completed a few years ago.

ARKANSAS

Erwin & Leach No. 3 Bodcaw Lumber Co., section 20-16-23, near the town of Stamps, Lafayette County, developed 1 joint of mud with no oil show on drill stem test during the past week. The test was made from 3,460-91 feet, where a likely looking sand was cored. The test is drilling deeper at 3,560 feet and is reported to make about 300 more feet of hole and run Schlumberger test. A few miles southwest of this test, Earl F. Fox is arranging to drill deeper in No. 2 Coleman Brothers, section 30-16-24, the hole having been shut in at 2,824 feet for the past month. On the western flank of the Ouachita area of the Smackover field, Phillips Petroleum Co. No. 1 J. D. Reynolds, section 27-15-15, developed 2,500 feet of salt water in 20 minutes on drill stem test and is coring ahead at 2,808 feet. Also in Ouachita County, J. D. Reynolds No. 1 McKenzie, section 36-15-16, is running 5⅛-inch casing at 1,958 feet, hole bottomed at 1,976 feet. West of Camden in Ouachita County, W. B. Street, trustee, No. 1 Rath & Cartier, section 35-13-18, is coring gray sand at 1,822 feet.

Seaboard Oil Corp. No. 2 fee, a new test in section 28-17-4, Ashley County, has set 10-inch casing at 600 feet.

The lower producing sand in the red bed series in the Rainbow field, Union County, has turned in three good producers within the last two weeks. J. E. Crosbie, Inc., No. 4 Sullivant, section 12-17-14, is pumping and flowing 800 bbls. daily from 3,173 feet. In the same section, Ohio Oil Co. No. 3 R. Furlough is making 500 bbls. daily from 3,189 feet and its No. 5 Pumphrey deepened from 3,011 feet to 3,174 feet, gauged 550 bbls. A shallow test in Sevier County, Pendleton & Vaughn No. 1 Dierke, section 14-10-29, was abandoned in fresh water at 950 feet.

Los Angeles Chapter

LOS ANGELES, Calif., Mar. 3.—The Los Angeles Basin Chapter of the Division of Production of the American Petroleum Institute will hold a meeting on Tuesday evening, March 10, in Shell Oil Recreation Hall, Long Beach. The program will include talks on: "Recent Developments in Cementing Practice," by Dean Sheldon, Union Oil Co., and "Modern Refining of Petroleum," by Don Cameron, Union Oil Co. J. L. Porter, Rio Grande Oil Co., is secretary-treasurer of the chapter.

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Commission Rules on Spacing Explained

AUSTIN, Tex., Mar. 2.—The Railroad Commission in its latest proration order explained that a statement in its August 26 order did not indicate an intention to abandon existing spacing rules.

Its August 26 order contained the statement: "We find from the evidence the more wells that are drilled the greater will be the ultimate recovery of oil and gas from any given pool."

The commission said it "did not mean and did not find from the evidence that the closer wells are drilled the greater will be the ultimate recovery of oil and gas from any given pool, but by such language only meant and found from the evidence that the more wells that are drilled in conformity with the spacing rules as applicable to the various fields in Texas the greater will be the ultimate recovery of oil and or gas from any given pool."

It did not then or now intend, the commission explained, "to abrogate or abandon any of the spacing rules now in effect and applicable to the various oil and gas fields in Texas, nor to militate against the fact basis on which the commission's spacing rules are based."

North Texas Banquet at Wichita Falls

FORT WORTH, Tex., Mar. 2.—The North Texas Oil and Gas Association held its annual banquet and meeting at Wichita Falls, Saturday evening. Some 400 operators attended. The chief speakers were Charles F. Roeser of Fort Worth, president of the Independent Petroleum Association of America; Jake L. Hamon, Dallas, president of the Texas Division of the Mid-Continent Oil and Gas Association; Senator Clint C. Small, of Amarillo, and Dick Holt, Austin, assistant attorney general. Mr. Roeser asked for support of the Disney bill to limit imports of foreign oil. He again mentioned the low price for oil, stating his conviction that 36 gravity crude would go to $1.60 per barrel, a price he declared necessary to support the industry on a stabilized basis.

Mr. Hamon reviewed the heavy tax burden being imposed upon the oil industry, declaring oil men would have to bring their situation before the people of the state, or face additional tax burdens. Senator Small stressed the importance of the oil industry to Texas.

L. H. Cullum, Wichita Falls, is retiring president of the association. Walter D. Cline acted as master of ceremonies at the banquet.

Nomenclature Map of State of Texas

A nomenclature map of Texas, prepared by E. C. Jacobson, Tulsa, draughtsman, was received with much favorable comment by oil men when it made its appearance the past week. Mr. Jacobson also has made nomenclature maps of Oklahoma and Kansas, which have been adopted as official by the nomenclature committee of the Mid-Continent Oil and Gas Association.

A year was required in assembling data and preparing the Texas map. It shows every oil and gas discovery in the big state since the early days at Corsicana and Spindletop to the present.

The Texas map measures 53 inches by 69 inches, and is made to the scale of 8 miles to the inch.

Oil fields are shown in green and gas fields in red, hand colored, and that includes every pool from Texarkana to El Paso, from Dalhart to Brownsville. Each of the 266 counties are shown, with an index for locating them. There also is an index for locating the oil and gas fields, names of pools as designated by the six nomenclature committees in Texas, which are composed of members of the various geological societies. Cities, towns, county seats and principal streams are shown.

The map also includes active oil areas in the adjoining states of New Mexico, Oklahoma, Arkansas and Louisiana. Mr. Jacobson's office in Tulsa is at 530 McBirney Building.

Mid-Continent Dinner at Shreveport, La.

SHREVEPORT, La., Mar. 2.—An address by George B. Logan of St. Louis, counsel for the Associated Industries of Missouri, on "The Social Security Bill" was the feature of the banquet of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association here. It was the largest gathering ever held by the division and the largest to gather in the hotel in more than five years. There were more than 525 reservations.

The speakers' table was on a platform bedecked with flowers, behind which there had been erected a miniature oil rig, completed in every respect and pumping just as if it was in an oil field.

D. W. Harris, president of the Louisiana-Arkansas division of the Mid-Continent, presided.

"The Mid-Continent is not a political organization," he said in opening the banquet. "This meeting is for the purpose of renewing old friendships and to welcome the new members into our oil fraternity."

J. C. Campbell, executive secretary of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, conceived the idea of the meeting and made all arrangements.

Among the prominent out of town visitors who appeared on the program were J. D. Collett, president, and C. B. Mapes, secretary of the Mid-Continent Oil and Gas Association, from Tulsa. Tinsley Gilmer, of Lake Charles, attorney for Humble Oil Co., also made a short address.

California Fields

(Continued from Page 70)

three projects within the next few days. The Texas Co. has just spudded in its second test in the Eureka section of Humboldt County but it will be another two months before sufficient depth has been reached to anticipate anything of importance. This well is being drilled in search of oil production although discovery of a commercial gas field would prove quite welcome due to the proximity of this area to the San Francisco Bay region.

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Michigan Field Report

NEW WELLS IN CRYSTAL AND OGEMAW; MIDLAND IS QUIET

By PAUL A. ELLIOTT

MOUNT PLEASANT, Mich., Mar. 3.—Michigan gradually began to arouse itself from hibernation this week and activities in the various fields assumed a more business-like attitude. Though the "white plague" left a large number of the wells throughout the state unapproachable, a slight majority were reported in operation again.

For the first time in several weeks a Crystal Township well was completed when McClanahan Oil Co. brought in its No. 1 Frank H. Lamphier, SW SW NE section 2, in Montcalm County, at a total depth of 3,-186 feet for an initial production of 190 bbls. in two hours. The well was immediately pinched in to 15 bbls. an hour due to lack of storage space and fear of water encroachment. The Lamphier is located in a "light well" zone and was considered an upset. It topped the Dundee at 3,182 feet and picked up pay from 3,185-86½ feet. The Lamphier lease was farmed from the Romor Corp. by McClanahan who plans to make an east offset location next week.

North of Crystal in Ferris Township, Daily Crude Oil Co. picked up some pay at 3,219 feet in its No. 1 E. J. Fulford, SW NW SW section 36. Topping the Dundee at 3,216 feet, the Fulford encountered pay 3 feet in at 3,219 feet and bottomed at 3,-221½ feet. In 21 hours the hole filled up 800 feet with oil.

Complete One in Ogemaw

West Branch Township 22n-2e, rated the only completion in Ogemaw County for several weeks, when United Drillers, Inc., opened up its No. 1 Augusta Schwalm, SE SE NE section 19, for a 40-bbl. daily production after acid.

The Schwalm, located on the northeast edge of the town of West Branch, made 42 bbls. a day on the pump the first day, and 40 bbls. the second. It was completed 160 feet in the Dundee lime, topped at 2,559 feet.

Ide and Glavin No. 2 Gas Co. has placed its No. 2 U. and E. Wilcox, SW NW NW section 28, West Branch, on the pump after an acid shot, but no gauge has yet been taken. Dundee in the Wilcox was found at 2,-533 feet, and the hole bottomed at 2,713 feet.

In section 36, of West Branch Township, Consolidated Petroleum Producers, Inc., completed a small Traverse well on its Evan Crowe lease, and was drilling in another test in the Dundee. The Traverse producer, the No. 2 location on the lease, is making about 20 bbls. daily, with a heavy flow of gas, from a total depth of 1,784 feet, with Traverse top found at 1,772 feet. The gas is being used to drill the first test.

No. 1 Crowe, completed in the Traverse more than a month ago, and since then drilled on to the Dundee, is now completing in that formation. Decision to abandon good Traverse production by deepening resulted from completion of John C. Newell No. 1 Charles Hustead, same section, and a north offset to the No. 1 Crowe, about a month ago, for over 100 bbls. a day. Dundee on the No. 2 Crowe was found at 2,467 feet.

Another near completion was T. F. Caldwell No. 2 Frank Myas, SE SW NE of section 19, West Branch Township. The Myas topped Dundee at 2,573 feet, found first pay at 2,584 feet, and was drilling below 2,700 feet. This second location is almost 7 feet higher than the first location drilled on the lease, structurally.

Semi-Completion in Mills

Redman Oil Co. No. 3 Wobig, NW NW SE of section 6-21n-3e, Mills Township, was opened early this week, after an acid treatment, but no gauge had been taken of production. The well was completed at 2,-607 feet, in the Dundee lime, topped at 2,450 feet. Present pumped production would indicate it will be a small well.

Sun Oil Co. had four joints of drive pipe in on its No. 2 Department of Conservation, NW SE NE section 1-21n-1e, in Horton Township, Ogemaw County. The new Sun test is a west outpost to present Mills Township production. McClanahan Oil Co. is moving in materials on a second location on its Heintz lease, NW NE NE of section 24-22n-1e, of Ogemaw Township, same county.

Beaverton Active

In Beaverton Township of Gladwin County, five strings of tools were active, with one test completing in the Dundee lime. Operators expect advent of warmer weather to boom further the present activity.

M. F. Whitehill No. 2 Dell, NE SW SW section 2-17n-2w, set 5-inch casing at 3,827 feet early this week, and was drilling in. The Dell is on the proven structure, just north of a No. 1 producer on the same lease.

Smith Petroleum Co. was drilling at 3,005 feet and expected to be in the Traverse within a day or two, on its No. 2 Mae E. Fruchey, NW SE SW section 2. Triangle Oil Co. No. 1 Iosco Land Co., SE SW SE section 2, shut down the latter part of January because of title difficulties, has not yet resumed operations. Bottom of the hole is 1,700 feet.

Daugherty & Markey, contractors on the No. 1 Campbell, for the Great Lakes Oil Co., drilling in the SE SE NE of section 3-17n-2w, were drilling below 2,100 feet. The Campbell was one of the few wells in the state that did not shut down for the weather. The only delay that has thus far been met with since the well spudded in on January 19 was in waiting for pipe, and in getting the casing on location.

In section 11, of Beaverton, M. F. Whitehill No. 2 William Bell is drilling below 1,700 feet, while the No. 2 Omer Kintner, same section and owner, has made no progress since it was reported "rig partially built" several weeks ago. Sun Oil Co. has 419 feet of drive in on its No. 1 James Reid, in section 12. Few locations in the field thus far have required more than 300 feet of drive.

Goll, Graves & Mechling, Inc., completed a dry hole in section 28-17n-1e, of Billings Township, Gladwin County, when they abandoned their No. 1 M. Kent, NE NE SE, in the red rock, at about 1,400 feet. Marshall was topped at 1,300 feet. Extreme lowness of the structure caused operators to abandon the location without testing the lower structures. The Kent was 8 miles east and about 2 miles south of the proven Beaverton field.

Midland Still Slack

For the first time in several months Midland County failed to gain new oil production, although two tests were testing Dundee lime oil pay. In Greendale Township, the Pure Oil Co. was testing its No. 6-B Mattie H. Yost, C N half SE SE section 34, at a total depth of 3,435 feet. The same company was also testing the Dundee at 3,411 feet in its No. 8 Floyd Younglove, SW SE SW section 17, Porter Township.

Jasper Township looked for two completions within the next two weeks. A new Jasper location was made this week by the Pure in section 2, the No. 5 Bond Root.

Ionia Wildcat

Associated Petroleum Co. was drilling in in its No. 1 Emma Retersdorf, SE SE SE section 8-7n-8w, Keene Township, Ionia County. The same company is also planning a new wildcat, upon which the Retersdorf rig will be moved. The new project is on 6,000 acres of land owned by the company in Courtland Township, Kent County, Township 9n-10e, northeast of Grand Rapids.

Lease Sales Suspended

Reports from Lansing state that no further sale of state-owned lands, except plotted lots, will be made by the Department of Conservation until final action of the State Supreme Court on the constitutionality of Act 280 of the Public Acts of 1909. This was decided by the State Conservation Commission at its February meeting in Lansing.

A circuit court decision at West Branch declared the act unconstitutional. The law was originally enacted by the legislature to give the Public Domain Commission legal existence and authorized it to withhold subsurface mineral rights on any lands it sold. The circuit court at West Branch declared that the state had no right to withhold mineral rights when it sold state land.

New Locations

Seven permits for locations in five counties and one correction were released by the Oil and Gas Division of the State Department of Conservation. Kent County is to be the scene of Michigan Oil Exploration Co. No. 1 George W. Croff, NE SW NW section 35-7n-9w, in Vergennes Township.

Charles H. Bell will drill No. 2 L. C. Culey, C NE SW section 30-13n-7w, in Millbrook Township, Mecosta County, while in the same territory, C SW NE section 33, No. 3 Henry G. Houghton will be drilled by Edward Stewart.

Marshall H. Bauman is locating his No. 2 Charles and Henrietta Long, in the NW NW NE section 19-13n1w, Porter Township, Midland County. Superior Drilling & Producing Co. is to drill No. 1 L. B. Smalley, C SE SE section 3-12n-7w, Belvidere Township, Montcalm County. Fletcher and Leman have been issued a permit to drill No. 1 E. Higbee, C SE NE section 9-12n-7w, of the same township and county.

Smith Petroleum Co. will drill No. 1 William J. Smith, SE NE NW section 20-10n-6e, of Birch Run Township, Saginaw County. The permit issued to Hy-Nor Gas & Oil Corp. January 2, for No. 1 Eckert, has been changed in description to C N half NW SE section 10-12n-7w, Montcalm County, Belvidere Township.

Daily Production

Average daily production of the Michigan fields took another slight drop during the past week. The Vernon-Leaton field showed the largest gain of the four fields that recorded a boosted average; its increase was from 1,269 bbls. daily to 1,656 bbls., a jump of 390 bbls. The Greendale-Chippewa field stepped up from 2,571 bbls. to 2,928 bbls. Beaverton with a rise from 282 bbls. to 563 bbls., and Montcalm-Home from 162 bbls. to 263 bbls., were the other fields showing an increase over the previous week.

Porter-Yost, the leading older field, dropped in daily production from 18,-936 bbls. to 18,854 bbls. Ogemaw took a tumble from 1,851 bbls. to 1,814 bbls. daily output. Hemlock, Saginaw, Birch Run, Muskegon-Oceana remained the same, while the Montcalm-Crystal field dropped from 11,-027 bbls. to 9,325 bbls. Vickeryville sunk from 11 bbls. daily to nothing and Tuscola's output of 6 bbls. dropped completely.

Additional Locations

Stork Oil Co. is planning a test of

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Grout Township of Gladwin County, according to officials of the company. A new wildcat will be located on the Zimmer lease, E half NW section 34.

The Terry Dale Oil Co. and the Terry Dale Michigan Corp., both of Ionia, are awaiting favorable weather conditions to commence operations on the No. 1 Tew, section 12, Berlin Township, Ionia County, and No. 1 Higgins, section 13, Eureka Township, Montcalm County. In addition, the same companies have made four tests for locations. They are: No. 1 Welch, section 9, Ionia Township, Ionia County; No. 1 Fay Kingsbury, section 20, Bushness Township, Montcalm County; No. 1 Cheaney, section 13, Millbrook Township, Mecosta County, and No. 1 Blanchard, section 24, Solon Township, Kent County.

G. C. Drilling Contractors

(Continued from Page 61)

keeps 14 rigs active in Southwest Texas drilling for the Plymouth Oil Co., Humble Oil & Refining Co., Texas Co., Shell Petroleum Corp., Pan American Petroleum Co., Stanolind Oil & Gas Co. and Buchanan & Blanco Oil Co.

Nicklos Drilling Co. has completed Continental Oil Co. No. 1 D. J. Miller for a producer in the Tepetate field, and has rigged up and spudded No. 1 P. W. Miller for the same company. No. 1 D. J. Miller was completed through perforated casing from 8,303-13 feet and flowed 259.73 bbls. of 49.1 gravity oil per day through a quarter-inch choke with tubing pressure 2,600 pounds and casing pressure 2,900 pounds. It was noted in the completion record of the well that no screen was used, which is rather unusual due to the high gas pressures encountered.

C & C Drilling Co. has cemented surface casing on No. 1 Connor, a wildcat test located in Wharton County for the Cockburn Oil Co.

Smith and McDannald have apparently opened a second producing sand for the St. Martinsville field in St. Martin Parish, Louisiana, where No. 2 Smedes is being drilled for the Tide Water Oil Co. This test, which is located southwest of the discovery well, producing from a sand at 5,500 feet, failed to pick up the discovery sand and at 8,709-14 feet a high pressure gas sand was encountered, stopping progress. While circulating, the drill stem became stuck and the hole has been plugged back preparatory to sidetracking. In Jefferson County, No. 1 Grinnell, a wildcat test, is being spudded for Bishop and others. A production string has been cemented at 5,933 feet on No. 1 Autrey at the Hastings field for Stanolind Oil & Gas Co. and at the South Houston field for the same company's Drilling District No. 25 is bottomed in oil sand at 4,775 feet, and will be completed during the week. Another rig is location in Calcasieu Parish for A. G. Oliphant No. 1 Calcasieu National Bank.

Rutherford Drilling Co. is nearing the first sand on two wells in the Bay City field for Skelly Oil Co. No. 5-B Cobb is drilling shale below 7,200 feet; No. 1 Metzger is in shale at 6,800 feet. No. 4-B Cobb, which was spudded last week, is drilling below 3,400 feet. No. 3 Gray, located in the Placedo field for the American Liberty Oil Co., is bottomed in oil sand at 4,760 feet with a production string cemented at 4,759 feet.

George W. McMurray of San Antonio moved from two tests in Bee County during the week and is now drilling a test in the Ray extension of the West Tuleta field of that county, and a wildcat in Live Oak County. His crew completed the No. 1 Booth for Herbert Aid for an extension to the Ray pool.

Logco Drilling Co. of San Antonio will move in on a new location in the Lopez field, Webb County, this week to be drilled for the Luling Oil & Gas Co. The test will be a northern outpost well to the field.

Oil Show at Houston Is Preparing Program

Inquiries from foreign oil men of several countries have been received at the headquarters of the seventh Oil Equipment and Engineering Exposition, to be held in the Sam Houston Hall, Houston, Tex., April 20-25, 1936. Last year 12 foreign countries were represented in person, according to E. G. Lenzner, president and general manager of the exposition.

The first aid contest, one of the outstanding features, will be held every day instead one day. Approximately five teams will compete each day. Elimination heats have already started by teams of several large utility and oil companies. Last year 20 teams competed for the loving cups. Four cups will be awarded this year.

Teams entered include United Gas Co., of Jackson, Miss.; Texas Co., Shell Petroleum Corp., Humble Oil & Refining Co., Empire Oil & Refining Co.'s Gladewater team, and Louisiana Oil & Refining Co.'s team from Shreveport, La. Rules governing the contest will be taken from the U. S. Bureau of Mines Handbook.

The 1936 show is expected to surpass that of 1935, when more than 80,000 attended, and more exhibits will be displayed.

Signal Oil, Vancouver

EDMONDTON, Alberta, Feb. 29.—Signal Oil Co. of Vancouver, British Columbia, has been registered in Alberta with office at Edmonton, and Ronald Martland as attorney.

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PRODUCTION OF CRUDE PETROLEUM BY DISTRICTS

(Thousands of barrels of 42 gallons)

	December, 1935		November, 1935		Jan.-Dec.,	Jan.-Dec.,
	Total	Daily av.	Total	Daily av.	1935	1934
Appalachian:						
Pennsylvania Grade ..	2,075	66.9	2,088	69.6	25,502	23,958
Other (inc. Kentucky)	535	17.2	549	18.3	6,896	6,547
Lima-NE Ind.-Mich. ...	1,413	45.6	1,518	50.6	16,163	11,602
Ill.-SW Ind.	402	13.0	429	14.3	5,062	5,293
Mid-Continent:						
N. La. and Ark.	2,084	67.2	1,852	61.8	20,526	20,257
W. Texas-SE N. Mex.	6,640	214.2	6,572	219 0	75,481	66,760
East Texas	14,444	465.9	14,140	471.3	175,918	181.540
Other (Okla., Kans., N. Tex., etc.)	28,143	907.8	27,722	924.0	335,724	316,175
Gulf Coast	10,189	328.7	9,635	321.2	104,640	83,949
Rocky Mountain	1,759	56.8	1,677	55.9	20,198	17,678
California	21,027	678.3	20,294	676.5	207,832	174,305
Total	88,711	2,861.8	86,476	2,882.5	993,942	908,065

Kansas Developments

By
DAL DALRYMPLE

LERADO POOL WELL IN RENO FLOWED 305 BBLS. IN 1 HOUR

The past week was exceptional in recent Kansas oil history in that no new oil pool was opened by some wildcat test. In the past year there have been few seven-day periods in which at least one wildcat strike has not been made in the Sunflower state.

There has been no lack of activity, however. With the melting of snow and a cessation of freezing temperatures, there has been a general increase in drilling activity in both wildcat and proven areas. This particularly is true of that section of the state usually referred to as "western" Kansas but which really is "central" Kansas, geographically. Several new wildcats have been started, others are scheduled to start drilling within the next few weeks, and routine operations, hampered by the several winters, have been resumed in the proven areas.

Wildcat tests just getting under way include the following: Pryor & Lockhart No. 1 Stegeman, SW NW NE section 7-16-17w, 10 miles north of LaCrosse in Rush County; Keith and others No. 1 Dartmouth, SW SE section 3-17-18w, 8 miles northwest of LaCrosse and 9 miles south of the Schoenchen pool; Worsley and others No. 1 Perinton, NW NE section 32-13-25w, Trego County, 28 miles southwest of production in the Wakeeney pool; Walter Skaer and others No. 1 Dryden, NE cor. section 28-10-17w, Rooks County, northwest of the recently opened Bemis pool; Joe Aylward No. 1 William Oberle, SE SW section 19-18-10w, Rice County, 6½ miles east of Claflin; Merriam and others No. 1 Soeken, Barton County, SW SE section 21-17-11w, 2 miles north of Claflin; Bridgeport Machine Co. No. 1 Madden, SE NE NW section 26-15-18w, Ellis County, 4½ miles south of the Schoenchen pool; H. F. Wilcox Oil & Gas Co. No. 1 Hess estate, SE SE NW section 13-34-2w, Sumner County, 10 miles northeast of Caldwell, and McMorrow & Griffith No. 1 Miller, in section 15-12-19w, on an 8,000-acre block in Ellis County.

Good Well in Reno County

The proven areas were to the fore with several completions, especially the Oxford area of Sumner County, and Reno and Russell Counties. The Shell Petroleum Corp. No. 2 Reece, CNL NW section 11-26-9w, in the new Lerado pool in southwestern Reno County, was one of the more important strikes of the week. At total depth of 4,152 feet in Viola lime, it was acidized and flowed 40 bbls. of oil in 40 minutes. Acidized a second time, it flowed 305 bbls. in the first hour. Viola lime was topped at 4,138 feet. It is the third producer in the pool, which the Shell company opened up several weeks ago with the No. 1 Reece, with an initial production of 878 bbls. The second well in the pool, the No. 1 Lee, had an initial flow of 5,646 bbls.

Rice and Barton Counties

The Silica area, straddling the county line between Rice and Barton Counties, continued to set the pace for the district. Gulf Oil Corp. No. 2 Stoltz, SW NE NW section 32-19-10w, was the largest of two completions in the Rice County sector of the pool; it had Siliceous lime at 3,296 feet, total depth 3,317 feet: pumped 930 bbls. of oil in 14 hours and made a 24-hour potential of 1,717 bbls. of oil. Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 10 Krampe, C E half NW SE section 31-19-10w, Silica pool, topped Siliceous lime at 3,304 feet; total depth 3,328 feet; made a potential of 118 bbls. of oil; acidized, and made new potential of 153 bbls. of oil, with 7 per cent basic sediment.

Other Rice County completions: Phillips Petroleum Co. No. 8 Mezger, SE NW NE section 21-20-10w, in the Raymond area, had top of Siliceous at 3,350 feet, total depth 3,354 feet, and made a potential of 809 bbls. of oil, cutting 30 per cent water. Gulf Oil Corp. No. 4 Coffman, NE NW SW section 5-20-9w, in the Chase pool, produced 532 bbls. of oil and 559 bbls. of water on potential test; Siliceous lime was found at 3,235 feet; total depth 3,295 feet; plugged back to 3,238 feet and was completed. Shell Petroleum Corp. and others No. 3 Haxton-A, C E half E half NW section 33-18-9w, in the Ploog area, had top of Siliceous lime at 3,240 feet, total depth 3,304 feet, and was reported temporarily abandoned, after swabbing 12 bbls. of oil and 24 bbls. of water in eight hours at 3,269 feet.

On the Barton County side of the Silica pool, Gulf Oil Corp. had the best producer with its No. 6 Steckel, NE SE NE section 1-20-11w; it made a 24-hour potential of 1,729 bbls. of oil, after finding Siliceous lime at 3,254 feet, drilling to 3,270 feet, total depth, and pumping 636 bbls. of oil in nine hours. Magnolia Petroleum Co. No. 4 Steckel, SW SW NE section 1-20-11w, had Siliceous lime at 3,285 feet; total depth 3,319 feet; was acidized and made potential of 88 bbls. of oil in 24 hours.

One Barton County completion was a new pool opener. It was the Yarnell, Carlson & Spencer No. 1 Bloomer, NE NE NW section 36-17-11w, east of Claflin and near the adjoining corners of Ellsworth and Rice Counties. It topped Siliceous lime at 3,257 feet after getting a hole full of water at 3,072-75 feet; was bottomed at 3,281 feet; pumped 92 bbls. of oil in three hours; was treated with 2,000 gallons of acid, pumped 60 bbls. of oil in two hours and made a potential of 470 bbls. of oil.

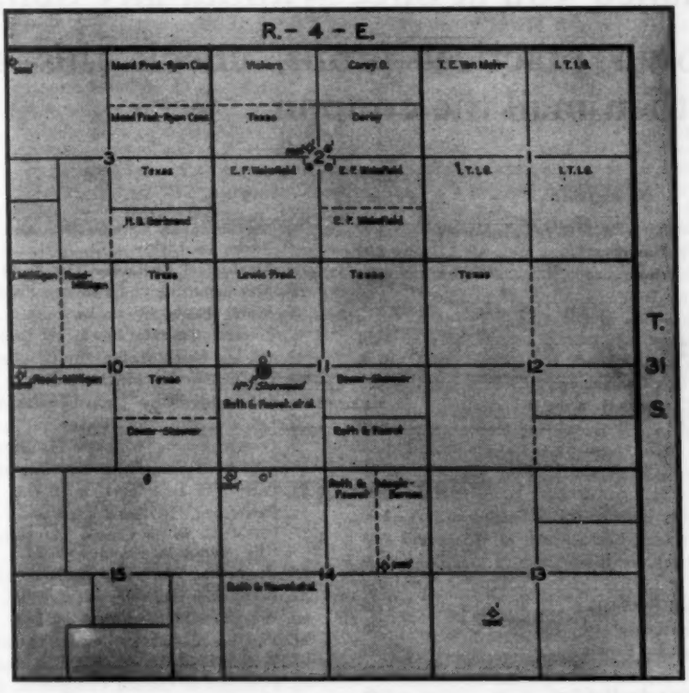
New work in Rice County follows: Joe Aylward and others No. 1 Oberle, SE SE SW section 19-18-10w, wildcat, rig; Gulf Oil Corp. No. 4 Stoltz, SE SW NW section 32-19-10w, rigging up rotary; Hutchinson Oil Co. No. 5 Wendell, NW SW NE section 32-19-10w, cellar; J. H. Tatlock No. 4 Berscheit, NW SW NW section 6-20-10w, moving in material.

The following tests were started in Barton County: Arch E. Merriam No. 1 Soeken, SW SW SE section 21-17-11w, wildcat, rig; Simpson & Noble No. 1 Eberhardt, NW cor. section 24-19-11w, moving in material; Mid-Continent Petroleum Corp. No. 4 Matzek, SW SW SE section 25-19-11w, moving in material; Magnolia Petroleum Co. No. 3 Steckel, SE NW NE section 1-20-11w, rigging up to drill deeper.

Roy Ramsey No. 4 Hilton, SW SE SW section 6-20-9w, in the Chase area, had Siliceous lime at 3,277-91 feet, total depth, and swabbed 25 bbls. oil per hour. Shell Petroleum Corp. and others No. 2 Haxton-A, C S half S half NW section 33-18-9w, in the Ploog area, topped Siliceous lime at 3,230 feet; total depth 3,273 feet; was acidized, and production was estimated at 50 bbls. of oil a day.

In the Silica area of Rice County, Gulf Petroleum Corp. No. 2 Wendell, NE NW SE section 32-19-10w, swabbed 65 bbls. of oil in six hours after topping Siliceous lime at 3,300½ feet, total depth 3,313 feet.

On the Barton County side of the Silica pool, Mid-Continent Petroleum Corp. No. 3 Matzek, SE SW SE section 25-19-11w, swabbed 300 bbls. of oil in three hours after topping Siliceous lime at 3,275 feet, total depth 3,287 feet. Same operator's No. 2 Schmidt, SW SE SW section 36-19-11w, topped Siliceous lime at 3,282 feet, drilled to total depth of 3,292 feet, and swabbed 30 bbls. of oil in one hour. Phillips Petroleum Co. No. 1 Matzek, NE NW NE section 36-19-11w, pumped 1,100 bbls. of oil in 18 hours; top of Siliceous lime was found at 3,279 feet, total depth 3,287 feet.



Roth & Faurot No. 1 Sherwood, NE NW SW section 11-31-4, wildcat, is showing as a new pool opener northeast of the Hittle area in Cowley County, southern Kansas

(Mid-Continent Map Co., Wichita, Kans.)

Russell County

One of four Russell County completions was a wildcat failure. Warren Oil Co. No. 1 Bratton, SE cor. section 25-11-13w, wildcat in the northern part of the county, topped Oswald lime at 2,970 feet; had showing of oil and gas at 3,125 feet, but was dry and abandoned at 3,390 feet, total depth, in conglomerate.

Texas Co. No. 3 Johnson, SE NE NE section 2-14-15w, in the Sullivan area, encountered the producing horizon, Gorham sand, at 3,310-14 feet,

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total depth, and made a 24-hour potential of 394 bbls. of oil. Phillips Petroleum Co. No. 1 Amelia, SE SW SW section 6-14-14w, was completed as an Oswald lime producer, pumping 40 bbls. of oil and 2 bbls. of water in five hours after acidizing, making a potential of 111 bbls. of oil and 50 bbls. of water in 24 hours; top of Oswald lime was found at 3,050 feet; total depth 3,316 feet; it pumped considerable water before any oil showed and was shut in several weeks before acidizing. Bridgeport Machine Co. No. 1 Michaelis-B, NE SE SE section 33-15-13w, in the Sellens area, topped Siliceous lime at 3,361 feet; total depth 3,366 feet, was acidized and made 24-hour potential of 300 bbls. of oil.

The following new work in Russell County was reported: Wolf Creek Oil Co. No. 1 Dillinger, SW cor. section 36-13-15w, building rig; Billings and others No. 7 Witt, SE NE SE section 4-14-15w, cellar; National Refining Co. No. 1 Reinhardt-C, NW NW SE section 25-14-15w, location; Signal Oil Co. No. 3 Sellens, SW SE NW section 26-15-13w, rig.

Hartman & Blair and others No. 1 Boxberger, NW NW SW section 32-13-14w, wildcat 3 miles southwest of the Russell pool, topped Oswald lime at 3,039 feet; total depth 3,220 feet; bailed at the rate of 8 bbls. of oil an hour and was acidized; it then pumped 192 bbls. of oil in seven and one-half hours. It was to be cemented because acid unseated casing.

Central Petroleum Co. No. 1 Foster-B, SW SW NE section 3-14-15w, pumped 386 bbls. of oil and made a 24-hour potential of 349 bbls. after topping Oswald lime at 3,044 feet and drilling to 3,132 feet, total depth. Hartman & Blair No. 1 Harbough, NE NE SW section 25-14-15w, topped Oswald lime at 2,908 feet, total depth 2,950 feet, was acidized with 5,000 gallons and pumped 480 bbls. of oil in 24 hours, cutting 2 per cent water. Stearns & Streeter No. 2 Miller, NW NE NW section 31-14-13w, swabbed at the rate of 6½ bbls. of oil per hour for 24 hours after topping Oswald lime at 2,854 feet and drilling to 2,963 feet, total depth.

Estimated Production

Estimated daily average production in Kansas for the week ending February 29 and for the preceding week is as follows:

	Barrels	
	Feb. 29	Feb. 22
Oxford City	7,700	8,000
Burrton	13,750	13,425
Ritz-Canton	6,525	6,025
Hollow-Nikkel	4,250	3,975
Voshell	3,525	4,075
Ellsworth County:		
Lorraine-South Lorraine	11,384	8,930
Other pools	1,724	1,124
Rice-Barton Counties:		
Chase	10,266	9,554
Raymond	2,285	2,672
Steckel-Isern (Silica)	6,365	5,370
Keesling	2,502	2,080
Miscellaneous Rice	3,530	2,008
Miscellaneous Barton	1,123	1,055
Russell County:		
Fairport	2,235	2,430
Gorham	4,382	3,586
Russell	4,620	4,077
Other pools	7,073	7,242
Sedgwick County:		
Valley Center	1,410	1,334
Greenwich	1,420	1,340
Robbins	1,626	1,702
Eastborough	916	879
Other pools	607	414
Ellis County	425	484
Kingman County	573	619
Stafford County	1,938	1,602
Greenwood County	10,500	10,500
Butler County	18,050	18,100
Other fields	19,548	18,998
Total Kansas	149,650	141,600

Reno County

The biggest of four Reno County completions was the Sinclair Prairie Oil Co. No. 1 Collins, NE NW SW section 3-24-4w. Top of Hunton area, the producing horizon, was 3,595 feet; at total depth of 3,605 feet it swabbed 525 bbls. of oil and had a showing of water in 24 hours; was acidized and made potential of 1,077 bbls. of oil, with water showing.

Derby Oil Co. No. 1 Schrock, SE SE SW section 27-24-5w, topped Chat at 3,402 feet; Viola lime 3,827 feet; Simpson 3,848 feet; hole full of water at 3,878 feet; topped Siliceous lime at 3,943 feet; 3,951 feet, total depth; plugged back to 3,812 feet; perforated casing at 3,465-70 feet and 3,420-30 feet, and made a potential of 43 bbls. of oil and 147 bbls. of water in 24 hours, completed. Olson Drilling Co. and Shell Petroleum Corp. No. 1 Penner, C E half E half section 27-23-4w, in the Burrton area, was acidized and made a potential of 164 bbls. of oil; Chat was topped at 3,246 feet, total depth 3,370 feet.

The Hilger area of southeastern Reno County was extended to the north by Rose Spring and Foraker No. 1 Brauer, wildcat in SW SW SE section 4-26-4w; Chat was encountered at 3,665 feet; Mississippi lime based at 3,982 feet; Misener sand 4,060 feet; Viola lime 4,106-13 feet, total depth. It pumped at the rate of 10 bbls. of oil a day from Viola until acidized, and then pumped and flowed 560 bbls. of oil, cutting 2 per cent water, completed.

New work in Reno County follows: Olson Drilling Co. and Shell Petroleum Corp. No. 2 Hutchinson Lumber Co., C NW NE section 24-23-4w, location; same operators' No. 2 Sabin, C SW NE section 24-23-4w, location; Marathon Oil Co. No. 1 Priddle, C SW NE section 16-24-4w, location; Derby Oil Co. No. 3 Seedle, SW NW SW section 17-24-4w, location; Texas Co. No. 4 Collins, NW NW SE section 17-24-4w, cellar; Haynes Brothers and others No. 1 Bauman, NW NW SE section 30-24-4w, building rotary rig.

Shell Petroleum Corp. No. 2 Danton, C NW NE section 16-24-4w, flowed 138 bbls. of oil in four hours; top of chat was found at 3,300 feet, pay at 3,370-77 feet, total depth.

Sumner County

The Dolomite pay continued to yield rich returns for operators in the Oxford area of Sumner County. Shell Petroleum Corp. No. 6 Rothwell, NE NE SW section 14-32-2, topped Simpson dolomite at 2,811 feet; drilled to 2,878 feet and flowed 1,296 bbls. of oil in five hours; acidized with 8,000 gallons, it then flowed 1,444 bbls. of oil and 35 bbls. of water in three hours; it was plugged back to 2,877 feet and made a potential of 11,095 bbls. of oil. On potential test it flowed 525 bbls. of oil the first hour, 472 bbls. the second hour, 514 bbls. the third hour, 485 bbls. the fourth hour and 495 bbls. the fifth hour.

Barnsdall Oil Co. and Lario Oil & Gas Co. No. 15 Wenrich, NW SW SE NW section 23-32-2, topped Dolomite at 2,923 feet; total depth 2,959 feet, and made potential of 1,137 bbls. of oil in 24 hours. The other Oxford completion was an old well drilled deeper, the Shell Petroleum Corp. No. 1 Scroggins-C, SE NW SW section 14-32-2, old total depth 2,113 feet; topped Dolomite 2,892 feet; total depth 3,016 feet; swabbed 31 bbls. of oil and 65 bbls. of water in seven hours; was shot two times and pumped 58 bbls. of oil and 48 bbls. of water in 24 hours.

In the Churchill pool, Shell Petroleum Corp. deepened its No. 1 State, NE NW SW section 25-31-2, topped Kansas City lime at 2,070 feet; total depth 2,148 feet; swabbed 125 bbls. in three hours; was acidized and made 24-hour potential of 1,313 bbls. of oil.

Only new work starting in Sumner County was Winkler & Koch No. 1 Wenrich, NW NE SW section 23-32-2, in the Oxford area, a rig.

Shell Petroleum Corp. No. 15 Emrich, SW SW NE section 14-32-2, in the Oxford area of Sumner County, was acidized but had not been tested: it found Dolomite at 2,833 feet, total depth 2,872 feet, and swabbed 175 bbls. of oil in seven and one-half hours before acidizing.

Cowley County

Two wildcat failures were included in the four Cowley County completions of the week. I. W. Murfin and others No. 1 Houston, NW NW SW section 10-31-4, wildcat northeast of the Hittle pool, had Mississippi lime at 2,955-3,002 feet, total depth, and was dry and abandoned. Aylward, Trees and others No. 1 Shields, SW cor. section 17-32-6, wildcat east of the Winfield area, had a hole full of water in Siliceous lime at 3,412-14 feet, total depth, and was dry and abandoned.

The only Cowley County producer to be completed was the Derby Oil Co. No. 1 David, SW SW NE section 2-31-4; Bartlesville sand top was found at 2,953 feet; total depth 2,979 feet; it was shot and acidized and pumped 90 bbls. of oil in nine hours; made a potential of 100 bbls. of oil; retested, and made potential of 135 bbls. of oil in 19 hours.

Gralapp and others No. 1 Barnett, SE SW SW section 18-32-5, old Winfield pool well deepened from 2,114 feet, topped Mississippi lime at 3,045 feet, total depth, and was dry and abandoned.

One Cowley County completion was reported for the first time. It was Lewis Production Co. No. 1 Hill-B, SE SE NE section 19-31-6, in the Burden area. It had broken Bartlesville sand at 2,876-2,959 feet; Mississippi lime 3,000-11 feet, total depth, and was dry and abandoned.

New work in Cowley County: Craft and others No. 1 Taylor, NE SE NW section 32-32-3, wildcat, rig; McNabb No. 2 Southwestern College, C SE section 11-32-4, moving in material; Craft and others No. 1 Whitson, NE cor. section 20-33-4, wildcat, spudded and shut down; D. D. Mickleson and others No. 1 Wallace, SW SE SE section 10-33-4, wildcat, moving in material.

Butler County

National Refining Co. was starting the only new test reported in Butler County. It was the No. 1 Sutter-A, SE SE NW section 1-28-6, location.

Eldorado Refining Co. and Skelly Oil Co. No. 1 Gilson, SE SE NE section 10-28-6, in the Kramer area of Butler County, encountered Viola lime at 3,001 feet, drilled to 3,010 feet, total depth, and pumped 105 bbls. of oil and 15 bbls. of water in 24 hours.

Rush County

Oil producing possibilities of the Otis gas area of Rush County were proven with the county's sole completion of the past week, the Schermerhorn Oil Co. and others No. 1 Maneth-Brackley, C NE quarter section 22-18-16w. After getting a hole full of water at 3,322-25 feet, it topped sand at 3,546 feet, and produced 5,500,000 feet of gas and an estimated 100 bbls. of oil in 24 hours from 3,554-66 feet, total depth; later it flowed 465 bbls. of oil in 12½ hours; then 417 bbls. of oil in 13 hours, and made a potential of 700 bbls. of oil in 24 hours, gauging 3,000,000 feet.

Two new tests were started in Rush County. Pryor & Lockhart and others No. 1 Stegman, SW NW NE section 11-16-17w, location, a wildcat; Ira Keith and others No. 1 Dartmouth Savings Bank, SW SW NE section 3-17-18w, rotary rig.

McPherson County

W. C. McBride, Inc., No. 4 Whitright, C S half N half SW section 30-19-1w, in the Ritz-Canton area, encountered Chat at 2,923 feet; produced 3,400,000 feet of gas daily at 2,942 feet; was bottomed at 2,979 feet, flowed at the rate of 5 bbls. of oil an hour and was acidized, but had not been tested.

Woodson County

One new test in Woodson County was started. It was C. L. Sheedy and others No. 1 Grand Lodge, C E half NW SW section 4-25-14, a wildcat; operators were rigging up machine.

Rooks County

The only new test starting in Rooks County was a wildcat. It was Skaer Oil Corp. and Reese No. 1 Dryden, NE cor. section 28-10-17w, moving in material.

Phillips Petroleum Co. No. 1 Toepffer, C SE SE section 36-8-18w, topped Siliceous lime at 3,430 feet; total depth 3,474 feet; plugged back to 3,420 feet, was acidized and pumped 7 bbls. of oil in 1 hour and 30 minutes.

Ellsworth County

New work in Ellsworth County: Empire Oil & Refining Co. and others No. 1 Theo. Kroesch, NW NW SE section 33-17-9w, location; James Davis No. 1 Edwards, SW SW SE section 34-17-8w, moving in material.

Carter Oil Co. and others' No. 2 Williams, C W half W half NE section 26-17-9w, was a near completion in Ellsworth County. It topped Siliceous lime at 3,195 feet; total depth 3,200 feet; water intruded and it was plugged back to 3,196 feet, and pumped 117½ bbls. of oil and 65 bbls. of water in 16½ hours.

Canadian Oil Institute Formed at Calgary

CALGARY, Alberta, Feb. 29.—The Canadian Petroleum Institute was organized at a meeting at Calgary with the following officers:

President, Sam G. Coultis; vice president, in charge of the drilling, production and geology section, R. V. Johnson; vice president in charge of the refining and chemistry section, G. E. S. Georgescu; vice president in charge of sales and transport, T. W. McKee; secretary, John Collier. Other officers and directors will be named at a future meeting.

All persons interested in the petroleum industry in Alberta are eligible for membership. One of the association objects is to have all petroleum products conform to a uniform set of specifications.

L. A. Boyd, superintendent of the Gas & Oil Products, Ltd., plant in Turner Valley, read a paper on the latest developments in polymerization.

Rocky Mountain Area

TEST OF EASTERN COLORADO IS DUE FOR AN EARLY START

By T. R. INGRAM

DENVER, Colo., Mar. 2.—Drilling operations are resuming slowly in the northern Rocky Mountain area following warmer weather. In Colorado the area east of the mountains is in line for some important wildcatting. The California Co.'s test on the Round Butte structure was plugged and abandoned.

The Ohio Oil Co. is completing two wells on the Byron structure in Wyoming revealing some odd structural conditions. Campbell County is to have two tests this year. General Petroleum Corp. made a location on Overland dome, 5 miles southeast of two wildcats recently drilled.

Cut Bank reported on completion, the only well furnished in Montana. This was Neil Spencer No. 1 Tweedy, which swabbed 121 bbls. initially.

Report of the week's developments in the New Mexico fields will be found on page 92.

COLORADO

The eastern Colorado wildcat play is reaching the point where several locations for test wells are imminent. The major companies have around 3,000,000 acres leased up in Prowers, Kiowa, Cheyenne, Lincoln, Kit Carson, Elbert, Washington and Yuma Counties. Russell H. Volk, general manager of the Plains Exploration Co., in a recent review of this territory in the Mines Magazine, says that at the present time there are at least 20 blocks of leases in this area of sufficient size to drill tests and that five additional blocks are being assembled.

The Beecher Island block in Yuma County, in Township 3s, Range 43w, probably will be the first to be tested. The Indian Territory Illuminating Oil Co. has 23,000 acres in the block, which is solid except for an 80-acre tract in the center held by the Continental Oil Co. That company is expected to release its location within the next week or two.

One of the largest and most important blocks is the North Stratton in Kit Carson County, Townships 6, 7 and 8s, Ranges 46 and 47w. This block covers about 40,000 acres, the larger part of which is held by the Gypsy division of the Gulf Oil Corp. The story going the rounds is that the Indian Territory company made a detail seismograph survey and apparently was well satisfied with the results, but found that the Gulf company already was well entrenched. It succeeded in obtaining some center acreage and in the past few weeks was reported to have been investing heavily in royalties. One report credited it with paying $7,200 cash for half of the royalty on 960 acres.

A third test in sight is in northern Cheyenne County where Brittel Oil, Inc., has rig up on section 26-12s-47. The Gulf company is reported to have made a deal with the Brittel interests for 1,000 acres at $10 an acre payable when and if the test reaches 6,000 feet within a year.

Drilling operations were resuming slowly in Colorado the past week as a result of the moderation in the weather.

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE NE sec. 27-3s-64.
T.D. 4,134 ft.; drlg. cmt. plug; expect Hygiene in next 60 ft.

Riddle Pet. Co. No. 1 Baxter, C SW sec. 2-3s-6w.
S.D. 700 ft.; for drill pipe.

Archuleta County

Wm. E. Hughes Est. No. 4 fee (unsurveyed), C&L SE SE sec. 24-33n-2e.
Drlg. 600 ft.

Wm. E. Hughes Est. No. 5 Gramps, SE NW SE sec. 24-33n-2e (unsurveyed).
Drlg. 160 ft.

Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e.
S.D. 1,515 ft.; top Dakota series 1,415 ft.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW) sec. 24-33n-2e.
Spudding at 40 ft.; (cor. location).

K. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1e.
S.D. 710 ft. after pulling pipe to S.R.

Baca County

Paul Robb et al No. 1, NW NW NW sec. 24-32-48w.
Derrick and pit, and wtr. well rig.

Boulder County

Leslie R. Steel et al No. 1 Maxwell, SW NE NW sec. 24-1n-71e.
T.D. 2,420 ft.; P.B. to 1,160 ft. to test oil show in Muddy.

Cheyenne County

Brittel Oil Co., Inc., No. 1 Seip, C NE NW sec. 26-12s-47w.
Rigged and ready to spud.

Jefferson County

Rainbow Oil Co. No. 1 Johnson, NE sec. 20-4s-68.
Derrick.

Ruby Hill O. & G. Co. No. 1 Braden, SE cor. sec. 24-4n-69.
Drlg. 4,400 ft. in shale; 15 ft. of oil in hole.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, C&L NE NE sec. 34-35n-12w.
S.D. 1,300 ft. for 10-in.

Larimer County

California Co. No. 1 State, SE SW NE section 6-11n-68, Round Butte structure, near the Wyoming line, is being plugged and abandoned at 3,242 feet in the Pennsylvanian formation. At this depth it lost circulation in a crevice and after several days' efforts to recover, decided conditions did not warrant further attempts. It had a show of oil in the upper Sundance at 1,915-25 feet and water at 1,934-2,075 feet.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-52.
S.D. 1,850 ft.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60.
Drlg. 1,223 ft.; carrying 4½-in. at 1,114 ft.

Moffat County

Ohio Oil Co. No. 1 Robertson, C SW SW sec. 3-6n-92w.
Location.

Texas Co. No. 7 Knowlton, NE cor. Lot 8, sec. 16-4n-91w.
Drlg. 4,909 ft. in shale and shells.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-36n-17w.
T.D. 2,705 ft.; fishing for tools.

Park County

South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w.
Drlg. 3,820 ft.; carrying 6¼-in. at 3,813 ft.

Prowers County

Trojan O. & G. Co. No. 1 Lotus Oil, NW NE NE sec. 15-23-4w.
T.D. 5,890 ft.; P.B. to 3,400 ft.; show for 25 bbls.; will acidize again.

Routt County

Mid-Colo Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w.
S.D. 2,860 ft. on acct. of weather.

WYOMING

Wyoming escaped a complete shutdown of drilling operations in the blizzards during the past few weeks and the past week 13 operations were making progress. While the weather was more severe, more wells kept going than in past years at this season. About this time three years ago every drilling well in the state was shut down.

Albany County

California Co. No. 3 Hoist, 1,650 ft. W of E line and 970 ft. N of S line, sec. 18-17n-77w.
Drlg. 2,222 ft.

Big Horn County

Ohio Oil Co. is completing two wells on the Byron structure which reveal an unusual condition. Its No. 4 Byron Union, with a surface elevation of 4,243 feet, topped the Embar at 5,587 feet, or 1,344 feet below sea-level. This is the highest surface elevation and lowest structural elevation of any well so far drilled in the field. Its No. 1 Lindsay with a surface elevation of 4,044 feet, topped the Embar at 4,980 feet, or 936 feet below sea level. This has the lowest surface elevation and the highest structural elevation of any well so far drilled. The two operations are about a mile apart and both are showing good saturation. The structure is considerably faulted.

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89.
S.D. 690 ft. for pipe.

Peter Evanhoff et al No. 1 McAllister, Lot 4, NW NE SE sec. 35n-97w.
S.D. 2,350 ft.

Kinney-Coastal Oil Co. No. 3 Government, SW NW NE sec. 24-56n-98w.
Cored saturated Tensleep sand from 4,245 ft. to bottom at 4,320 ft.; running pipe to top of sand.

Ohio Oil Co. No. 4 Byron Union, SW SW NE sec. 22-56-97.
Coring saturated lime at 5,617 ft.; top Embar 5,587 ft.; elev. 4,243 ft.

Ohio Oil Co. No. 1 Lindsay, SW SW NE sec. 23-56-97w.
T.D. 5,050 ft.; cemented 7-in. at 4,990 ft. with 750 sacks; top of Embar at 4,980 ft.; elevation 4,044 ft.

Montana-Wyoming Oil Co. No. 1 Allen, 270 ft. from N line, 936 ft. from E line, Lot 52 (SE NW SE) sec. 32-56n-97w.
T.D. 3,835 ft.; cleaning out ice and mixing mud to kill gas.

Peay Oil Co. No. 1 Denio, Tract 43-C, sec. 15-55n-97w.
T.D. 3,800 ft.; set 6¼-in. on bottom; W.O.C.

J. H. Shaffer No. 1 Keachie, C SW SW sec. 5,49-61.
T.D. 1,350 ft.; sidetracking tools at 1,366 ft.

W. O. Taylor et al No. 1 Hoskins, Lot 5 (SE SE) sec. 25-56n-97w.
T.D. 5,275 ft.; redrlg. at 4,850 ft.

Campbell County

Two important wildcats are scheduled to be drilled this year in the big basin between the Big Horn Mountain range on the west and the Black Hills in South Dakota by G. J. Sherin, and associates. The area, which is more than 100 miles wide and much longer, extending over into Montana, has never been tested to the extent of other districts in Wyoming, due principally to the belief that the depth to the most promising horizons was too great and uncertainty as to whether the Wall Creek sands extended that far east. The Wall Creeks were the principal objectives in the earlier Wyoming wildcatting. Since that era the Dakotas and Sundance have been explored and found productive in a number of fields. The basin is about three-fourths circled with producing oil and gas fields around the edges. These include Billy Creek, Salt Creek, Teapot, Midway, and Big Muddy on the west and south, Lance Creek, Mule Creek, Osage, and others on the east.

Mr. Sherin, who formerly operated in Salt Creek and was associated with former Governor Haskell, of Oklahoma, in Texas, has been engaged for several years in working out structures and obtain leases in Campbell County. Two structures, the Dietz, and Thunder Basin, are to be tested this year. The syndicate has 90,000 acres on the Dietz structure, of which 70 per cent is fee land, and 120,000 acres on the Thunder Basin structure. These are all held under 10-year leases requiring no rentals as long as a test well is drilling on each structure. All leases for each block are held under community agreements with no restrictions as to offset drilling. The Dietz structure, which will be the first drilled, is located 15 miles southwest of Gillette and rig is up and sump and reservoir completed in section 24-49n-74w. Spudding will begin as soon as weather conditions permit. The Thunder Basin structure is 45 miles south of Gillette and approximately 15 miles long and 7 miles wide. Location has not yet been released for this test. The operators propose to drill with cable tools to the Shannon at around 1,800 feet to determine approximate depths of objective sands and then go to the Wall Creeks to ascertain whether they extend that far east. It is then planned to install rotary tools. Associated with Mr. Sherin are John A. Kinkle, Cadillac distributor; John Pickett, attorney; and John Arp, hardware dealer, all of Cheyenne.

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74w.
Derrick up, sump and reservoir completed (cor. loc.).

Carbon County

The General Petroleum Corp. of California has released a location for another test on the Overland (Pass Creek) structure in its No. 1 Union

Pacific, 5 miles to the southeast of the two tests heretofore drilled.

General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19n-83w.
Loc. (first report).
Ohio Oil Co. and California Co. No. 1 Union Pacific, Acct. J, NE SW NW sec. 25-21-79w.
T.D. 5,470 ft.; cemented 7-in. at 5,284 ft. with 300 sacks; preparing to test.
Ohio Oil Co. and California Oil Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w.
Location.
Ohio Oil Co. No. 1 State, SE NW NE sec. 34-20n-78w.
T.D. 2,680 ft.; old well drilled deeper from Dakota to Sundance; (first report).
Ohio Oil Co. No. 8 Harrison & Cooper, CWL W½ SW sec. 35-20-78w.
T.D. 3,030 ft.; fished out drill pipe and cemented hole.
Ohio Oil Co. No. 3 H. & C., NW NW SW sec. 35-20n-78w.
T.D. 3,228 ft.; cemented 4½-in. liner at 3,156 ft.; testing S.O.
General Pet. Corp. No. 1 Whitford, SW SE SE sec. 24-20-84.
T.D. 6,482 ft.; shot off 8⅝-in. at 4,200 ft. to test G.P. series.
Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w.
S.D. 4,400 ft.; (cor.).

Converse County

John Ackert No. 1 Daniels, SW SW SE sec. 17-32-71.
S.D. 4,004 ft.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96.
T.D. 4,245 ft.; running 6¼-in. to set on top Tensleep.
Ohio Oil Co. No. 73 Mill Iron Cattle Co., NE SW SE sec. 19-46n-98w.
Cellar
Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w.
Drlg. 2,683 ft.

Lincoln County

Searab Oil Corp. No. 3 Government, CSL SE NW sec. 10-26n-113w.
S.D. 1,020 ft.

Natrona County

Empire State Oil Co. No. 15, NW SE NE sec. 11-33n-83w.
Spudded and S.D. account of weather.

Niobrara County

The Ohio Oil Co. No. 6 Converse Sheep, section 32-36-65, Lance Creek, which was reported a completion last week at 3,802 feet, flowed 70 bbls. an hour through the 7-inch at 3,715 feet with 4,000,000 feet of gas.

Argo Oil Co. No. 6 Elliott, C SE NW sec. 5-35n-63w.
Spudding.
Black Hills Ref. Co. No. 1 Mills Est., C SW NW sec. 27-36n-64w.
Spudded and S.D. account of weather.
J. H. Huber Co. No. 1 Jones, NE SE NW sec. 6-25n-65w.
T.D. 4,096 ft.; P.B. to 4,032 ft.; running 2-in. tubing and R.U. for pump test.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w.
Rigging up rotary.
S. & H. Dev. Co. No. 1-A Olinger, SE NE NW sec. 1-36-63.
T.D. 1,674 ft.; S.O. Dakota water with 4½-in. at 1,620 ft.; fishing for tools; 600 ft. of oil in hole from Lakota at 1,666-74 ft.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55n-85w.
Drlg. 3,050 ft. and carrying 4½-in.

Uinta County

Intermountain Pet. Corp. of Utah No. 1 Union Pacific-Hayes, SW NW SW sec. 24-19n-118w.
Drlg. 1,575 ft.
W. D. Marshall No. 1 Government, NW SW SE sec. 12-15n-118w.
S.D. 1,260 ft.

Washakie County

Ariton & Doyle No. 1 Government, SW SW SE sec. 29-48-91w.
S.D. 1,116 ft.
Wyoming O. & R. Co. No. 2 Government, SW SW SW sec. 31-48-90.
T.D. 1,404 ft. (cor.); fishing for tools.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e.
S.D. 3,000 ft. after setting 6¼-in. at 2,895 ft. and drilling plug.

Fallon County

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-3n-62e.
S.D. 6,349 ft.; weather.

Fergus County

E. A. Fenholt No. 1, SE NW SW sec. 24-21n-17e.
Judith Operating Co. No. 1 Government, C SW SW sec. 26-22n-17e.
S.D. 1,052 ft. (cor.).
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21n-18e.
Drlg. 501 ft.

Callatin County

Ben W. Ryan No. 1 Tice, NE NE NE sec. 28-1n-2e.
S.D. 2,572 ft. (cor.).

Garfield County

West Dome Oil Co. No. 1, SW SE NE sec. 9-15n-29e.
Drlg. 811 ft.

Glacier County

McCabe & Jeffries (Helmac Trust) No. 1 Rasmussen, NE SW SE section 32-33-5w, which was reported a completion in the Cut Bank field last week, swabbed 250 bbls. first 16 hours.

One completion in Cut Bank was reported this week in Neil Spencer No. 1 Tweedy, CSL SE SW section 35-33-6w, which swabbed 121 bbls. first 22 hours at a total depth of 3,015 feet. It will shoot at 2,990-3,007 feet. There was a small show of oil in the Sunburst at 2,940-52 feet. The pay in the Cut Bank was at 2,992-3,007 feet.

Most of the Cut Bank wells continue shut down on account of the weather.

A. B. Cobb No. 5 Walberger, C NE NE sec. 35-35n-6w.
Rig.
Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w.
S.D. 732 ft.
Cobb-Reagan No. 1 Jackson, NE NW NW sec. 5-32n-5w.
S.D. 2,500 ft.
Gardner et al No. 1 Cole, C SE NW sec. 2-32n-6w.
Rigged; W.O. engine.
L. P. Jackson et al No. 1 Tribal, NW SE NW sec. 23-34n-7w.
Ready to spud.
R. C. Jeffries No. 4 Lukens, NE NE NE sec. 12-33n-6w.
S.D. 2,610 ft.
Kincheloe-Hanlon No. 1 State, SE SE SE sec. 25-33n-6w.
S.D. 1,975 ft .
Jack Marshall No. 1 Tribal, 140 ft. S of N line and 200 ft. E of W line, Lot 7, sec. 7-32n-5w.
T.D. 2,911 ft.; set 6⅝in. at 2,865 ft. and S.D.
Montana Power Gas Co. No. 1 Simero, C SE SE sec. 30-34n-5w.
Drlg. 2,500 ft.
Montana Power Gas Co. No. 2 Whetstone, S SW NE sec. 3-33n-5w.
S.D. 2,790 ft.: cmtd. 7-in. at 2,808 ft.
Nadeau Bros. No. 1 Tribal, C Lot 4, sec. 6-32n-5w.
T.D. 2,845 ft.; fishing for tools.
Santa Rita O. & G. Co. No. 6 Tribal, 660 ft. S of C W line, sec. 15-35n-6w.
Spudding 25 ft.
Santa Rita O. & G. Co. No. 1 Shearon, 660 ft. S of N line and 349 ft. W of E line, sec. 24-36n-6w.
S.D. 2,725 ft.
Santa Rita O. & G. Co. No. 1 Corey, NE NW SE sec. 5-32n-5w.
S.D. 2,959 for spudder.
R. C. Tarrant No. 6 Britton, C SE SW sec. 12-34n-6w.
S.D.; rig.
R. C. Tarrant No. 5 Getty, NW NW SW sec. 2-34n-6w.
S.D. 2,440 ft.
R. C. Tarrant No. 2 State, C NE SE sec. 36-34n-6w.
S.D. 750 ft.
R. C. Tarrant No. 7 Haglund, Jr., C SW SW sec. 13-34n-6w.
Standing rigged.
Texas Co. No. 5 fee, 660 ft. N of SW cor. sec. 15-35n-6w.
Drlg. 150 ft.
Texas Co. No. 1 Walker, C NE NE sec. 2-35n-6w.
T.D. 2,585 ft.; fishing for bailer.
Texas Co. No. 1 Tribal, Lot 4, 1,300 ft. from W line, 200 ft. from S line, sec. 2-33n-5w.
Cleaning away snow to build road.
Wilkerson et al No. 1 Tribal, SW SE NE sec. 31-33n-5w.
S.D. 1,450 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e.
Show at 311 ft., not commercial; resuming at 350 ft. to go to Cat Creek horizon.

Pondera County

Wm. M. Fulton No. 1 Price, SW NE NE sec. 18-27n-4w.
S.D. 480 ft.
Norden Corp., Ltd., No. 1 Hollan, NW SW NW sec. 12-28n-6w.
S.D. 583 ft. (cor.).

Teton County

Teton Oil Co. No. 1 Reickhoff, C SE SW sec. 14-24n-5w.
T.D. 2,410 ft.; fishing for tools; top of Ellis at 2,278 ft.; 8⅝-in. at 2,284 ft.

Toole County

All Kevin-Sunburst drilling wells are shut down.

T. H. Harriman No. 1 Beaupre, SW SW SW sec. 5-35n-2w.
Rigging.

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-25n-20e.
S.D. 135 ft. (corrected).
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 23-22n-22e.
Drlg. 2,100 ft.; 8¼-in. set at 1,952 ft. for W.S.O.
Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31s-16e.
Set 10-in. at 600 ft. and S.D.

Washington County

Arrowhead Pet. Corp. No. 1-A, SE SW NE sec. 1-42s-15w.
Drlg. 2,418 ft.; H.F.W.; 6¼-in. at 1,409 ft.

Eastern Fields

(Continued from Page 66)

the second test on the C. J. Burdette farm. Harper district is at present inactive although new work is indicated.

In Upshur County, the Columbian Carbon Co. has started the test on the W. H. Reger farm in Warren district and it is now drilling at 580 feet.

In Wetzel County, Null & Moorhead Gas Co. has reached a depth of 1,000 feet in the test on the Archie Church farm in Church district. In Magnolia district, C. B. Lewis and others are drilling at a depth of 1,900 feet on the Josephus Clarke farm.

In Wirt County, the Service Oil Co. has a rig standing for a test on the C. C. Menafee farm in Burning Springs district. In Clay district, J. J. Shore has a rig standing of the Riley Mayle farm, a test. Glen W. Roberts is drilling at 1,886 feet in the test on the F. J. Mills farm in Burning Springs district.

W. W. Fleming, president of the Marathon Oil Co., and Mrs. Fleming are spending a month's vacation in the South. They went from Tulsa to New Orleans to attend the Mardi Gras, and then on to Florida and will visit at winter resorts in that state for the next month.

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CAN HANDLE ANY LIQUID COMMODITY

WILDCAT OPERATIONS

KANSAS WILDCATS

Week Ending February 29

(Descriptions are East unless marked otherwise)

Barton County

Arch E. Merriam No. 1 Soeken, SW SW SE sec. 21-17-11w.
Rig.

Buchanan & Alexander No. 1 Langfeld, NE NE SW sec. 14-20-11w.
S.D. 2,030 ft.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w.
Rig.

Hilligoss et al No. 1 Schmidt, NE cor. sec. 27-19-11w.
Drlg. 1,700 ft.

George W. Hinkle No. 1 Smith, SW NW NW sec. 1-17-11w.
Drlg. 380 ft.

Morgan & Flynn et al No. 1 Amerine, NE cor. sec. 14-19-14w.
Drlg. 2,850 ft.

Morgan & Flynn et al No. 1 Zimmer, SE SE SW sec. 20-19-14w.
Drlg. 1,935 ft.

Murphy & Morgan No. 1 Robinson, NE NE SW sec. 21-16-14w.
Drlg. 445 ft.

Roy Ramsey et al No. 1 Hunt, NW cor. sec. 10-18-11w.
Rig.

Simpson & Noble and Atlantic Oil Producing Co. No. 1 Hiss, C NW NE sec. 31-20-13w.
Bldg. rig.

Terry & Feaster No. 1 Kimpler, SE NE NE sec. 31-18-11w.
Siliceous 3,423-41 ft.; T.D. 3,468 ft.; P.B. to 3,462 ft.; acidized; no test.

Terry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w.
Siliceous lime 3,430-32½ ft.; T.D.; potential; pumped 346 bbls. oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 22-19-12w.
Moving in material.

Yarnell, Carlson & Spencer No. 1 Bloomer NE NE NW sec. 36-17-11w.
K.C. lime 2,994 ft.; Siliceous 3,257-73 ft.; hrs.; acidized; pumped 60 bbls. oil in 2 hrs.; made potential of 470 bbls. oil; completed.

Cowley County

Aylward & Trees Oil Co. et al No. 1 Shields, SW cor. sec. 17-32-6.
Mississippi lime 3,015 ft.; Siliceous 3,412-14 ft.; T.D.; hole full of water; dry and abd.

Craft et al No. 1 Taylor, NE SE NW sec. 32-32-3.
Rig.

Craft et al No. 1 Whitson, NE NE NE sec. 29-32-4.
Spudded and S.D.

Mead Bros. et al No. 1 Orr, SE SE SW sec. 23-31-4.
Rigging up machine.

D. D. Mickleson et al No. 1 Wallace, SW SE SE sec. 19-33-4.
Moving in material.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4.
Bldg. rig.

I. W. Murfin et al No. 1 Houston, NW NW SW sec. 19-31-4.
Mississippi lime 2,955-3,002 ft.; T.D.; dry and abd.

Pennwest Oil Co. No. 1 Clover, NE SE SE sec. 8-31-7.
19,000,000 ft. gas 1,420-60 ft.; showing oil and gas 2,249-51 ft.; slight showing oil 2,795 ft.; S.D. 2,825 ft.

Roth & Faurot No. 1 Guthrie, NW cor. Lot 14, sec. 30-32-8.
Underreaming 10-in. pipe at 1,200 ft.

Roth & Faurot No. 1 Sherwood, NE NW SW sec. 11-31-4.
Sand 2,010-29 ft. (cor.); T.D. 3,031 ft.; 2,600 ft. oil in hole; shot with 40 qts.; C.O.

A. M. Scroggin No. 1 Brady Est., NE NE SE sec. 30-31-3.
Rig.

E. B. Shawver et al No. 1 Wilson, S½ NE SE NE sec. 11-30-4.
Drlg. 1,150 ft.

Shawver & Wilt No. 1 Baruth, SW NW NE sec. 8-34-3.
Old well deepening from 1,393 ft.; H.P.W. 1,905-25 ft.; cleaning out 2,130 ft.

Earl Wakefield No. 1 Wilson, NW cor. sec. 4-32-3.
Rigging up.

Winkler, Koch et al No. 1-B Harlan, C S½ NW NE sec. 13-31-7.
S.D. 2,750 ft.

Ellis County

Blackwell O. & G. Co. No. 1 Solomon, SE SE SW sec. 28-11-19w.
Location.

Lario Oil & Gas et al No. 1 Walter, SE NE SW Sec. 2-12-18w.
Drlg. 95 ft.

Parrish & Denman No. 1 Walter, SE SW SE sec. 14-13-17w.
Moving in material.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w.
Rigging up.

Twin Drlg. Co. No. 1 Reidel, SW SW NE sec. 27-13-16w.
Rig.

Ellsworth County

Skiles et al No. 1 Kafka, NE NE SW sec. 15-17-8w.
Rigging up.

Smith & Ash and Phillips Pet. Co. No. 1 Splitter, SW cor. sec. 19-17-9w.
Drlg. 2,040 ft.

Graham County

Vickers Pet. Co. & Phillips Pet. Co. No. 1 Hutton, 430 ft. from E line and 330 ft. from N line of SE¼ Sec. 29-8-23w.
T.D. 1,375 ft.; S.D.

Greenwood County

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13.
S.D. 925 ft.

Hale & Reese No. 1 Needles, NE SE NW sec. 12-25-10.
Rig.

Mohawk Oil Co.'s No. 1-A Edgar, NE NE SW sec. 3-28-8.
Mississippi lime 2,540 ft.; 200 ft. of oil in hole, 2,541-42 ft.; T.D. 2,548 ft.; 200 ft. of oil in hole in 15 hrs.; swbd. 3 bbls. oil per day; acidized.

Sharpless et al No. 1 Cook, NW NW NW sec. 15-24-10.
Spudded and S.D.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW Sec. 17-35-8w
Mississippi 4,775 ft.; cored at 4,875-90 ft.; slight showing of oil; Halliburton test showed 700 ft. mud and S.W.; cored 4,981-87 ft.; show of oil; fishing 5,009 ft.

Harvey County

Empire O. & R. Co. et al No. 1 Webster, SE SE SW sec. 8-24-2w.
Drlg. 1,380 ft.

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-2w.
Drlg. 1,425 ft.

Western Kansas O. & R. Co. No. 1 Warkentin, C SW SW sec. 1-23-2w.
Drlg. 1,500 ft.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w.
Rig.

Kearny County

L. F. Meyers et al No. 1 Beaty, C NW sec. 28-25-36w.
Rotary rig.

Kingman County

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 33-27-8w.
Old well deepening; drlg. 4,583 ft.

Marion County

Milton et al No. 1 Young, NW NW SE sec. 17-21-3.
Drlg. 1,485 ft.

McPherson County

Ok-Tex et al No. 1 Moehlinger, SE SW SW sec. 21-21-2w.
Rotary rig.

Norton County

Lario O. & G. Co. and Elwell No. 1 Kennedy, SW SW NW Sec. 22-3-23w.
Show of gas 3,365 ft.; hole full of water 3,370 ft.; underreaming 8-in. pipe 3,375 ft.

Pratt County

Lario O. & G. Co., Ewell and Atlantic O. P. Co. No. 1 Lemon, SE SE NW Sec. 12-29-13w.
Chat 4,262 ft.; Viola 4,514 ft.; drlg. 4,543 ft.

Reno County

Derby Oil Co. No. 1 Schrock, SE SE SW sec. 27-24-5w.
Simpson 3,848 ft.; H.P.W. 3,878 ft.; P.B. 3,850 ft.; more wtr.; Siliceous 3,942 ft.; T.D. 3,951 ft.; P.B. to 3,912 ft.; perforated csg. 3,460-65 ft.; swbd. 1½ bbls. oil, 6 bbls. wtr. per hr.; perforated csg. 3,420-30 ft.; made 24-hr. potential of 42 bbls. oil and 147 bbls. water; comp.

Foraker et al No. 1 Hiett, SE SW NE Sec. 34-24-4w.
S.D. 1,780 ft.

Helmerich & Payne et al No. 1 Schwaiger, SW SE NE sec. 27-26-5w.
Bldg. rotary rig.

McPherson Drlg. Co. et al No. 1 Miller, SE SE NE sec. 23-24-5w.
Rig.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w.
Building rig.

Rose Spring & Foraker No. 1 Brauer, SW SW SE Sec. 4-26-4w.
Misener 4,060 ft.; Viola lime 4,106-13 ft.; T.D.; 1,000 ft. fluid in hole; acidized; pumped and flowed 560 bbls. oil, 2 per cent water, in 24 hrs.; comp.

Rice County

Joe Aylward et al No. 1 Oberle, SE SE SW sec. 19-18-10w.
Rig.

Continental Oil Co. and Empire Oil & Ref. Co. No. 1 Nickel, NE SW SW sec. 13-18-8w.
Drlg. 3,167 ft.

Day No. 1 Mason, NW NE NE Sec. 28-21-7w.
Chat 3,388-3,400 ft.; flowed 91 bbls. in 50 minutes; shut in 2 hrs., flowed 3 bbls. oil in 10 minutes.

Duwe & Schneider No. 1 Wright, NW cor. sec. 36-21-7w.
Spudded; S.D.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w.
Drlg. 1,530 ft.

Permian Oil Co. No. 1 Monroe, C NE NE Sec. 9-20-7w.
S.D. at 1,110 ft.

C. E. Skiles et al No. 1 Edwards, NW NW NE Sec. 3-18-8w.
Siliceous 3,278-81 ft.; T.D.; potential production 550 bbls. of oil in 24 hrs.; deepened to 3,282 ft. and oil increased; no test.

Vernon Oil & Gas and Cusco Oil Co. No. 1 Boldt, NW SW NW Sec. 10-19-10w.
U.R. 6-in. csg. 2,909 ft.

W. E. Witt's No. 1 Hall, SE SE NW sec. 3-20-9w.
Spudded and S.D.

Rooks County

F. A. Gillespie & Sons No. 1 Low, NE NE NW Sec. 12-6-18w.
Topeka lime 2,586 ft. (cor.); T.D. 3,162 ft.; pumped 60 bbls. of oil and was acidized; acid ate out csg. seat; wtr. broke in; P.B. to 3,118 ft.; 2,000 ft. oil in hole; pumped 6 bbls. oil per hour; acidized; no test.

Murfin et al No. 1 Washusin, NE NE SE Sec. 19-9-16w.
S.D. 990 ft.

Pryor & Lockhart's No. 1 Bradley, SW SW NE sec. 31-10-16w.
Topeka, 2,857 ft.; underreaming 8-in. pipe 2,860 ft.

Skaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 25-10-17w.
Moving in material.

Rush County

Ira Keith et al No. 1 Dartmouth Savings Bank, SW SW NE sec. 3-17-18w.
Rotary rig.

John McCole et al No. 1 Roth, NW NW SW sec. 21-16-18w.
Rig.

Pryor & Lockhart et al No. 1 Stegman, SW NW NE sec. 11-16-17w.
Location.

Torrey & Feaster et al No. 1 Winget, SE cor. Sec. 15-16-16w.
Rig.

Russell County

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w.
Drlg. 300 ft.

Bridgeport Machine Co. et al No. 1 Wyckoff, SE NW NE sec. 27-11-13w.
Drlg. 1,710 ft.

Coraiene Oil Co. No. 1 Disken, SE cor. Sec. 30-15-13w.
Fishing 3,000 ft.

Eisenhour & Shaffer No. 1 Humes, SW SW SW sec. 6-14-12w.
Drlg. 250 ft.

Empire O. & R. et al No. 1 Major, SE cor. Sec. 11-14-12w.
Drlg. 1,350 ft.

Hartman and Blair No. 1 McAllister, SW SW SE sec. 24-13-15w.
Moving in material.

Hartman and Blair No. 1 Boxberger "B," NE SE SW sec. 5-14-14w.
Drlg. 2,595 ft.

Hartman & Blair et al No. 1 Boxberger, NW NW SW Sec. 32-13-14w.
Topeka lime 2,760 ft.; Oswald 3,039 ft.; T.D. 3,220 ft.; bailed 8 bbls. oil per hour; acidized; pumped 192 bbls. oil in 7½ hrs.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w.
Location.

Sam Murphy et al's No. 1 Enschutz & Schaffer, SW cor. Sec. 10-15-13w.
Pay 2,465-68 ft.; produced 2 bbls. of oil an hour; drlg. 2,840 ft.

Charles Newbold No. 1 Krug, SE SW SE sec. 4-15-14w.
Drlg. 650 ft.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w.
Tarkio lime 2,515 ft.; T.D. 2,550 ft.; swbd. 5 bbls. oil per hr., and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w.
Cleaning out 515 ft.

Warren Oil Co. No. 1 Bratton, SE cor. Sec. 25-11-13w.
Oswald lime 2,970 ft.; showing of oil and gas 3,125 ft.; Conglomerate 3,360-90 ft.; T.D.; dry and abd.

Winkler & Koch No. 1 McAllister, NE NE SE Sec. 9-13-13w.
Rig.

Sedgwick County

T. C. Johnson No. 1 Jansen, SW SW NW sec. 11-28-2.
Drlg. 1,160 ft.

Stafford County

L. A. Farris et al No. 1 Snyder, SE SE NW sec. 3-21-11w.
Showing oil 1,870-80 ft.; drlg. 2,300 ft.

Kessler & Their No. 1 Evans, NE NE NE sec. 20-21-11w.
Rigging up rotary.

Sumner County

Helmerich & Payne et al No. 1 Elwell, NW NW NE sec. 18-34-1.
Bldg. rig.

D. L. Husted et al No. 1 Evers, SE SE NE sec. 37-31-2.
S.D. 200 ft.

Morgan et al No. 1 Veail, SE SW NE sec. 27-32-2.
Drlg. 2,897 ft.

Orcutt & Stewart's No. 1 Newton, SE cor. Sec. 21-30-2.
S.D. 550 ft.

D. J. Wilson et al's No. 1 Clark, 1,320 ft from W and 25 ft. from S line of NW Sec. 15-35-1w.
S.D. at 2,670 ft.

Trego County

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-13-21w
K.C. lime 3,548 ft.; showing of oil and gas 3,643-50 ft.; T.D. 3,897 ft.; swabbed 100 bbls. oil in 2 days; 750 ft. oil in hole.

Continental Oil Co. No. 1 Holcomb, E½ E½ NW sec. 26-11-22w.
Spudding.

Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w.
H.F.W. 4,726 ft.; cmtd. hole to 4,340 ft.; bailed 1 bbl. oil and wtr.; acidized; produced ¼ bbl. oil per hour.

Woodson County

Lewis et al No. 1 Riggs, SW cor. sec. 16-26-14.
S.D. at 900 ft.

J. F. Mergen et al No. 1 Vermont Savings Bank, NE NW NE sec. 15-25-14.
Mississippi lime 1,564 ft.; S.D. 1,610 ft.

C. L. Sheedy No. 1 Baker, SE SE NW sec. 2-26-14.
R.U. machine.

C. L. Sheedy et al No. 1 Grand Lodge, C E½ NW SW sec. 4-25-14.
Rigging up machine.

Sheedy et al No. 2 Warner, SW SW SW sec. 21-25-14
Sand 1,426-60 ft.; T.D. 1,500 ft.; P.B. to 1,460 ft.; shot with 150 qts.; waiting on cmt.

OKLAHOMA WILDCATS

Week Ending February 29

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan. Oil Co. No. 1 Acre, C SW NE sec. 14-24-11w.
Sylvan shale 7,065 ft.; Wilcox sand 7,285 ft.; Schlumberger test showed porosity at 5,910 ft. and at 6,400-6,500 ft.; S.D. 7,325 ft.

Beaver County

Anderson & Kerr et al No. 1 Davis, C SW SE sec. 36-5-26 (Cimarron Meridian).
Mississippi lime 6,775 ft.; T.D. 6,794 ft.; set 7-in. csg. 6,042 ft.

Beckham County

Speed & Barker No. 1 Stephens, SW SW NW sec. 19-9-23w.
Rig on ground.

Wood Pet. & Royalty Corp. No. 1 Blair, C NW SE sec. 32-9-26w.
Drlg. 2,060 ft.

Caddo County

Denver Prod. & Ref. Co. No. 1 Sah-Cas, C SE SE Sec. 33-10-10w.
T.D. 10,013 ft.; started washing in but S.D. until warmer weather; nothing showing.

H. W. Lee et al No. 1 Horton, NE cor. Sec. 9-6-13w.
S.D. at 2,001 ft.

F. A. Turner et al No. 1 Sapin, NE NE SW Sec. 1-5-11w.
T.D. 3,440 ft.; S.D.

Cleveland County

Ada Lee Mayes, Inc. No. 1 Parsons, SW SW SE Sec. 30-9-1.
S.D. at 3,500 ft.
Hall-Briscoe, Inc. No. 1 Fant, SW SW NE Sec. 27-10-2w.
S.D. at 7,611 ft.

Coal County

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10.
Sand 1,520 ft.; McAllister series 1,600 ft.; Atoka shale 2,380 ft. drlg. 4,190 ft.

Comanche County

T. H. McCasland et al No. 1-A Smith, SW cor. sec. 12-3n-10w.
Sandy lime 1,310-14 ft.; showing oil; Drlg. 1,526 ft.
N. E. Mieling No. 1 Miller, NE NE SW sec. 23-4-12w.
T.D. 530 ft.; S.D. for csg.
John Nicholas No. 1 Householder, NE NE SW sec. 8-3-10w.
T.D. 960 ft.; S.D.
Geo. Pace et al No. 1 Spencer, SW cor. SE sec. 21-3-10w.
T.D. 4,164 ft. in Granite wash; P.G. to 1,850 ft.; re-cmtd. hole from 1,853 to 1,644 ft.; drlg. cmt. to 1,813 ft.; S.D.
J. Phillips No. 1 Head, N½ NW SW sec. 19-4-11w.
Rigged up; S.D.

Garfield County

Herndon Drlg. Co. et al No. 1 Branson, SW SW SE sec. 23-24-3w.
Drlg. 3,070 ft.
Earl McBride et al No. 1 Gage estate, SE NW sec. 27-22-3w.
S.D. at 1,090 ft.
W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w.
S.D. 4,860 ft.
Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w.
Drlg. 1,200 ft.

Garvin County

Chas. E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3.
Old T.D. 2,405 ft.; to deepen.
Suggett & McElreath No. 1 Hyre, NE NE SE sec. 23-3-1w.
Showing oil in cores at 4,075-77 ft.; coring at 4,093 ft.

Grant County

Southern Oil Co. et al No. 1 Allen, SW SE sec. 36-26-4w.
S.D. 5,505 ft.

Hughes County

Brady Oil Co. No. 1 Culver, NE SE NW Sec. 28-7-9.
Location.
W. P. Canavan No. 1 Meadors, SE NE SE sec. 5-8-10.
Gilcrease 2,600 ft.; Wapanucka 3,050 ft.; Cromwell 3,058 ft.; sands 3,130 ft. and 3,180 ft.; slight showing of oil; T.D. 3,196 ft.; P.B. 3,146 ft.
Fitzpatrick et al No. 1 Cotton, SE SE NE sec. 13-8-8.
Bldg. rig.
M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9.
Wapanucka 3,428 ft.; Cromwell 3,452 ft.; T.D. 3,454 ft.; 2 bailers wtr. an hr.; P.B. and shot, 3,030-45 ft.; est. 10,000,000 ft. of gas; P.B. to 3,412 ft.; re-shot.
Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9.
Rigging up rotary.
Schumacher et al No. 1 Schumacher, NE NW NE Sec. 23-5-10.
Drlg. 1,760 ft.
Sivalls et al No. 1 Montgomery, NW SW NW Sec. 7-9-9.
T.D. 2,040 ft.; U.R. 8-in. pipe.

Kay County

Ben Head et al No. 1 Bealveal, SW cor. Sec. 8-25-1w.
Rigging up rotary at 50 ft.
Black Gold Pet. Co. No. 1 Cooley, NE NW SW sec. 25-28-4e.
Drlg. 1,220 ft.

Kiowa County

Beeler & Klein No. 1 E. Van Kirk, SW NE SE sec. 35-7-15w.
S.D. 115 ft.; T.D.
Burns & Moore's No. 1 Webster, C NE NE sec. 2-6-17w.
Sand showing oil at 450-53 ft. and 456-58 ft.; T.D.; pumped 22 bbls. in 4 hrs.; fishing for rods.
W. C. Adams et al No. 2-A Stone, C SE SE NE sec. 34-7-17w.
Granite wash 902 ft.; gray lime 925 ft.; T.D. 1,190 ft.; S.D.
W. C. Adams et al No. 3 Stone, C SE NE sec. 34-7-17w.
Salt water 1,480-1,547 ft.; T.D.; plugged back to 960 ft.; acidized; pumped 25 bbls. oil a day; completed.
J. C. Shaffer et al No. 1 Slusher, NW SW NW sec. 35-7-17w.
Drlg. 1,050 ft.

Lincoln County

Fred McDuff's No. 1 Jacob, NE NE SE Sec. 10-15-5.
Checkerboard 2,520 ft.; coring 3,421 ft.
Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Crawford, NE NE SE Sec. 35-15-2.
First Wilcox, 5,110 ft.; second Wilcox, 5,218 ft.; T.D. 5,229 ft.; flowed 131 bbls. in 10 hrs., 20% oil, 80% wtr. and mud; 18,000,000 ft. gas; deepened to 5,248 ft.; wtr. increased; P.B. to 5,150 ft.; no show.

Logan County

R. H. Pierce No. 1 Kihega, SW cor. sec. 7-17-1.
Drlg. 3,915 ft.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co. No. 1 Gragg, SW SW NE sec. 20-18-4w.
Viola lime 5,835 ft.; Dense 5,860 ft.; 39,400,000 ft. gas at 5,993 ft.; T.D.; tools recovered; to deepen.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. sec. 16-7-3w.
Drlg. 7,660 ft.

McIntosh County

Indian Ty. Ill. Oil Co.'s No. 1 Tancred. 1,050 ft. S and 390 ft. E of C. Sec. 9-9-14.
Gilcrease sand, 2,695-2,732 ft.; 20,000,000 ft. of gas; Cromwell 3,608 ft.; show of water 3,616 ft.; reduced hole at 3,520 ft.; straightreaming at 3,592 ft.; T.D. 3,617 ft.
Oklahoma Oil Corp. No. 1-A Wolf, SE SW SE sec. 35-12-17.
Gas sand 800 ft.; dry sands 1,200 ft. and 1,400 ft.; drlg. 1,800 ft.

Murray County

Hornsby & Jones' No. 1 Sadler, NE NE NW sec. 20-1-2.
T.D. 1,680 ft.; S.D.

Okfuskee County

Manahan & Grisso No. 1 Dalton, SE SE SE sec. 36-10-8.
Senora sand 1,723 ft.; T.D. 1,762 ft.; flowed 75 bbls. oil first hour after shot; flowed 225 bbls. in 7 hrs., and 203 bbls. in 9 hrs.; lost 4 hrs. while cleaning out.
W. J. Sherry et al No. 1 Washington, SW SW NE sec. 21-13-7.
P.B. 4,130 ft.; acidized; gas estimated 50,000 ft.; re-acidized; gas 9,800,000 ft.; completed; shut in.

Oklahoma County

Sinclair Prairie Oil Co. et al No. 1 Heavey, NE NE NW Sec. 19-13-3w.
Oswego lime 6,230 ft.; Viola 6,635 ft.; Dense 6,675 ft.; recovered partly saturated Wilcox sand from 6,908 ft. to 6,930 ft.; cores 6,930 to 6,970 ft.; some oil shows and some salty sand; to test.
Sinclair Prairie Oil Co. & G. Co. No. 1 Corbett, NE NW NE sec. 17-13-3w.
Oswego lime 6,070 ft.; Viola lime 6,395 ft.; showings of oil in cores 6,525 ft. to 6,542 ft.; T.D.; to run tubing.

Payne County

Denver Producing & Ref. Co. et al No. 1 Pratt, NW cor. sec. 20-18-3.
Rig.

Pittsburg County

Vaughn Prod. Co. et al No. 1 Chunn, 990 ft. N and 614 ft. W of C sec. 29-4-14.
S.D. 1,170 ft.; recovered all drill pipe; tools moved out.

Pontotoc County

Gulf Oil Corp. No. 1 Emry, SW SW NE sec. 15-2-6.
Hunton 5,552 ft.; Sylvan 5,846 ft.; Viola 5,975 ft.; Bromide 6,106 ft... first sand 6,205 ft.; cored 6,295-99 ft.; recovered 6 inches lime and shale.
Mid-Texas Pet. Co. No. 1 Whitney, SW SW SE sec. 30-5-4.
Drlg. 1,458 ft.
Pioneer O. & G. Co. No. 1 Bayne, SE SW SW sec. 16-5-6.
(Old well deepening); T.D. 3,016 ft.; P.B. to 3,006 ft.; acidized and no results; P.B. to 2,760 ft.; 1,600 ft. of oil in hole; pumped 7 bbls. oil in 24 hrs.

Pottawatomie County

Ross Oil Co. et al No. 1 Sparkman, SE NE sec. 33-8n-4e.
C.O. 3,915 ft.; shot at 3,871-90 ft.; swbd. 250 bbls. in 24 hrs.; acidized.

Roger Mills County

Anderson & Kerr et al No. 1 Teeter, C SE SE Sec. 2-17-25w.
Panhandle Big lime 4,195-6,503 ft.; T.D. and S.D.

Seminole County

Amerada Pet. Corp. et al No. 1 Community, NE NE SW sec. 3-10-5.
R.U. rotary.
Imperial Drlg. Co. No. 1 Aldridge, SW NE NW sec. 32-9-8.
Cellar and pits.
Sinclair Prairie Oil Co. et al No. 1 Harrison, NE NE NW Sec. 17-8-8.
Location.
Feimlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8.
Sand 1,460-1,505 ft.; showing oil and gas; S.D. 1,680 ft.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w.
T.D. 1,347 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12.
Drlg. 200 ft.
Vierson et al's No. 1 Williams, NE SW NW Sec. 34-2s-10.
Produced 2,500,000 ft. of gas from 3,746-48 ft.; now dead; set 6-in. csg. 3,759 ft.; Drlg. 3,835 ft.

Bryan County

Wayne King No. 1 Kimbell, C E½ NE NW sec. 36-9s-9e.
Drlg. 347 ft.
H. M. Smith et al's No. 1 Henry, C NW NE Sec. 10-8s-7e.
Rig.

Carter County

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-2w.
T.D. 8,088 ft., flowed 10,000 bbls. of oil in 24 hrs.; T.D. 7,540 ft. in new hole; P.B. with 200 sacks of cmt.
Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w.
Cellar and pits.
Schermerhorn Oil Co. No. 1 Clowdus, NW NW NE sec. 2-4s-2w.
Sand 1,017-19 ft.; T.D.; pumped 6 bbls. oil dly. completed.
Southern States Oil Dev. Co. No. 1 Moore, NE SE NW sec. 30-4s-1w.
Drlg. 926 ft.
Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w.
T.D. 4,164 ft.; cleaning out 4,154 ft.; 2,400 ft. fluid in hole.

Cotton County

Grace & Woods No. 1 Henderson, NE SE SW sec. 27-4s-11w.
Drlg. 1,388 ft.

Harmon County

Lioalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w.
Location.

Jackson County

Associated Oil Co. No. 1 Harrell, NE NE SE sec. 13-1s-21w.
S.D. 1,360 ft.
A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w.
Drlg. 1,855 ft.
Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w.
T.D. 1,530 ft.; S.D.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w.
Show oil and gas 1,150-55 ft.; T.D. 1,314 ft.; fishing.
L. C. Hydrick No. 1 Peoples National Bank, SW SW SW sec. 26-6s-5w.
Location.
Geo. Pace No. 1 Gardner, SW cor. Sec. 23-5s-5w.
Drlg. 1,400 ft.
Sinclair Prairie Oil Co. No. 1 M. H. Barrett, NW cor. sec. 31-5s-6w.
Sand 1,805 ft.; water in sand series at 2,833-3,309 ft.; drlg. 3,378 ft.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 12-2s-4e.
Arbuckle lime 1,552 ft.; drlg. 1,938 ft. in lime.
Moore & Wirick No. 1 Westheimer & Daube, SE NW NE sec. 19-3s-4e.
T.D. 1,925 ft.; S.D. for orders.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3n-22.
T.D. 1,555 ft.; S.D.

Love County

Amerada Pet. Corp.'s No. 1-A Westheimer & Daube, SW SE SW Sec. 27-6s-3e.
Drlg. 6,485 ft. in Dolomite.
J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e.
Drlg. 3,538 ft.
Sinclair Prairie Oil Co.'s No. 1 Stockton. SE SE SW Sec. 26-6s-2w.
Drill pipe stuck at 6,832 ft.; T.D. 7,165 ft. drlg. 6,626 ft. in shale in new hole.

Marshall County

Elmir-Gill No. 1 Lidecker, NW SE NW sec. 7-8s-6e.
T.D. 530 ft.; dry and abd.
Norman Smith No. 1 Chestnut, NE cor. sec. 23-8s-5e.
T.D. 390 ft.; S.D. for csg.
W. T. Singley et al No. 1 Halford, SW SE SW SW sec. 10-7s-4e.
T.D. 400 ft.; S.D.
W. T. Singley No. 1 Vickers, NW SW NW sec. 22-7s-4.
T.D. 246 ft.; S.D.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e.
S.D. 3,560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w.
Drlg. 70 ft.
Franklin & Duncan No. 1 Woolsey, NW NW SE Sec. 10-3s-6w (old well deepening).
T.D. 1,050 ft.; shut down.
Clyde Rhodes et al No. 1-A Doak, SW SW SW sec. 1-1s-5w.
T.D. 400 ft.; S.D.
Nash et al No. 1 Saddler, SW cor. NW NW SE Sec. 30-2n-4w.
T.D. 180 ft.; waiting for csg.

Tillman County

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE Sec. 31-1s-18w.
Drlg. 2,993 ft.

LA.-ARK. WILDCATS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

Bienville Parish

DeSoto O. & G. Co. No. 1 C. B. Mower, 270 ft. S, 400 ft. W, NE cor. NW SW sec. 9-16-10.
Drlg. 1,885 ft.
Gulf Ref. Co. No. 1 Thrasher, 723 ft. N, 554 ft. E, SW cor. sec. 13-15-7.
Drlg. 2,548 ft.
Lide & Greer No. 1 Davis Bros. Lbr. Co., 660 ft. S and W, NE cor. SE sec. 12-16-5w.
Drlg. 5,252 ft.
Texas Seaboard Oil Co. No. 1 F. E. McGee, 660 ft. N and E center sec. 3-16-4w.
D.S. test dry, 5,660-5,739 ft.

Bossier Parish

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13.
Drlg. 2,125 ft.
Producers O. & G. Co. No. 1 Edwards. 660 ft. N and W, SE cor. sec. 27-18-11.
Dry and abd. 3,200 ft.
United Gas Pub. Ser. Co. No. 1-A A. J. Murff, NW cor. sec. 17-17-11.
Rigging up.

Caddo Parish

Bayou State Oil Corp. No. 3 Brown, SE cor. sec. 28-22-15.
Set 10-in. 40 ft.; drlg. 550 ft.
Pyramid O. & G. Co. No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16.
Set 13⅜-in. 500 ft.
Shreveport Oil Corp. No. 8-B Muslow, 1,760 ft. E, 280 ft. N, SW cor. NW sec. 4-20-15.
S.D. 1,300 ft.
Simplex Oil Co. No. 2 Natalie, C NW SE sec. 10-20-15.
Set 10-in. 80 ft.; drlg. 1,982 ft.
Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15.
Set 12½-in. 100 ft.

Caldwell Parish

Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 18-11-3e.
S.D.; W.O. 1,304 ft.

Claiborne Parish

W. C. Glothlin et al No. 1 Brinker, SW cor. SE sec. 10-23-4w.
Set 10-in. 280 ft.; S.D. 2,371 ft.
E. T. Oakes No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. sec. 1-26-8w.
Fishing for D.S., 4,242 ft.
Ryan Oil Corp. No. 1 F. A. Gladney, 660 ft. S, 330 ft. E, NW cor. SE sec. 10-23-16, sec. 27-20-7.
Coring 5,131 ft.
United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5.
Fishing for D.S. 5,655 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e.
S.D. 1,120 ft.

De Soto Parish

S. S. Alexander No. 1 G. R. Stell, 330 ft. S and W, NE cor. sec. 5-12-16.
Coring 5,361 ft.
A. G. Halbach et al No. 1 Staton, 150 ft. N and E, SW cor. SE sec. 29-13-14.
S.D. 3,204 ft.
Union Pet. Co. No. 1 Hill, sec. 3-10-13.
S.D. 1,400 ft.
J. K. Wodley et al No. 2 Logan Oil Co., NW sec. 16-10-12.
Drlg. 2,600 ft.

Grant Parish

Alexander et al No. 1 Maxwell, sec. 9-9-1e.
W.O.S.R. 1,538 ft.
Taw Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e.
Set 10-in. 60 ft.

Lincoln Parish

Ark.-La. Gas Co. No. 1 C. E. Causey, NW cor. NE NW sec. 32-19-2w.
Rigging up.
Caldwell Land & Timber Co. No. 1 J. K.

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Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w.
Set 15½-in. 100 ft.

Herman L. Brown et al No. 1 S. Gardner, 330 ft. N, 330 ft. E, SW cor. NW NE sec. 16-17-4w.
Drlg. 4,160 ft.

Morehouse Parish

J. B. Collins et al No. 1 E. M. Clarke, SE NE sec. 10-20-7e.
Rigging up.

Ouachita Parish

United Gas Pub. Ser. Co. No. 85 fee, NE cor. SE sec. 31-19-4e.
Set 7-in. 2,142 ft.

United Gas Pub. Ser. Co. No. 86 fee, SE cor. SE sec. 31-19-4e.
Rigging up.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N. 636 ft. E, SW cor. sec. 15-18-7e.
Fishing for D.S. 1,010 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S 660 ft. W, NE cor. sec. 10-17-6e.
Drlg. 950 ft.

Sabine Parish

J. E. Nicholson No. 1 Cassell, 330 ft. S and W, NE cor. NW SW sec. 25-9-14.
Set 6-in. 1,585 ft.

Geo. L. Pace No. 4 DeSoto Corp., 330 ft S and W NE cor. SE SE sec. 27-10-13.
Junked and abd. 1,978 ft.

Posey Sisters Oil Co. No. 2 A. J. Burkett, C NE NE sec. 10-9-13.
Drlg. 50 ft.

Claude H. Smith No. 1 Whitney Corp. 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13.
S.D. 750 ft.

Lee Whitehurst No. 1 Cassell, 440 ft. S and W, NE cor. NW sec. 30-9-13.
Set 7-in. 1,570 ft.; T.D. 1,575 ft.; used acid; arranging to test. 1,710 ft.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., 1,285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w.
Drlg. 2,835 ft.

Webster Parish

J. L. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 8-17-9.
S.D. 1,290 ft.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C Sec. 23-21-10.
Coring 5,725 ft.

Winn Parish

Parsons et al No. 1 Tremont Lbr. Co., 660 ft. S, 330 ft. E, NW cor. SW sec. 19-11-1w.
Coring 3,995 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co. No. 1 D. A Maxie, John Collum Sur.
Set 10¾-in. 2,050 ft.; drlg. 2,070 ft.

R. W. Norton No. 1 Mary Riner, John Collum Sur.
Comp.; 72 bbls. per hr., 6,057 ft.

United Gas Pub. Ser. Co. No. 1 J. R Jones Unit, Ben Murray Sur.
Drlg. 3,340 ft.

United Gas Pub. Ser. Co. No. 2 J. R. Jones Unit, Ben Murray Sur.
Drlg. 4,976 ft.

Harrison County

R. C. Payne et al's No. 1 Lowery & [illegible] Spain Sur.
P.B. to 3,534 ft.

Marion County

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

Panola County

George Hudson et al's No. 1 J. F. Nail & McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.

Geo. Le Grand No. 1 P. J. Wardleigh, A Thompson Sur.
Set 10-in. 62 ft.

ARKANSAS

Arkansas County

Ark. O. & G. Co. No. 3 Fischer, 250 ft S, 200 ft. E, NW cor. NE NW sec. 6-6-4w.
Rigging up.

Ashley County

Seaboard Oil Corp. No. 2 fee, NW cor. NW NE sec. 28-17-4.
Set 10-in. 600 ft.

Clark County

Soris Tripanoff, tr., No. 1 W. Gibbons sec. 27-8-18.
Arranging to test 557 ft.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S 30 ft. E, NW cor. SW NE sec. 14-11-26.
Rigging up.

Fitzwater et al No. 2 Lafferty, C NW sec. 17-14-24.
Arranging set cag. 1,956 ft.

Murdock-May & Easton No. 1 Conway est., 330 ft. N and E, SW cor. NW SW sec. 17-14-24.
Set 12¾-in. 80 ft.; S.D. 120 ft.

Lafayette County

Earl F. Fox No. 1 Coleman Bros., NE NE sec. 30-16-24.
Arranging to deepen 2,824 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-12.
Tested dry 3,491 ft.; drlg. 3,560 ft.

Kamon & Neely No. 1 Cockran, NW cor. SE SW sec. 26-19-25.
S.D. 4,450 ft.

Joe Modisett No. 1 Red River Lbr. Co., C SW SW sec. 21-19-14.
S.D. for fuel 2,662 ft.

Transportation Pet. Co. No. 1 Cockran, 330 ft. S and W, NE cor. SE sec. 26-19-25.
Arranging to deepen 3,465 ft.

Miller County

King Oil Corp. No. 1 G. W. Crank, SW NE sec. 19-16-25.
S.D.; W.O. 3,906 ft. (corrected).

L. H. Mahon et al No. 1 Miller Land & Timber Co., SW cor. SE sec. 29-18-27.
S.D. 1,812 ft.

Ouachita County

Grigsby & Aarner No. 1 Burris, 330 ft. N and E, SW cor. NW NE sec. 19-1s-19.
Drlg. 3,400 ft.

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-15.
S.D. 1,700 ft.

Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. N and W, SE cor. SE NW sec. 27-15-15.
D.S. test made S.W., 2,782 ft.; drlg. 2,808 ft.

J. D. Reynolds No. 1 McKenzie, 204 ft. S, 300 ft. W, NE cor. SE SW sec. 36-15-16.
Running 5 3/16-in. cag., 1,958 ft.

W. B. Street, trustee No. 1 Roth & Cartier, 330 ft. N and E, SW cor. SW NE.
Coring 1,822 ft.

Sevier County

Pendleton & Vaughn No. 1 Dierks, C NW NE sec. 14-20-29.
Abd. 950 ft.

Union County

Arkansas Southern Oil Co. No. 1 F. R. Laney, sec. 30-19-14.
Installing larger rig. 175 ft.

J. C. Buckbee, tr. No. 1 Sloan, 330 ft. N and E, SW cor. SE NW.
W.O.S.R. 2,160 ft.

J. E. Crosbie, Inc., No. 4 Sullivant, 300 ft. N, 360 ft. W, SE cor. NE NW sec. 12-17-14.
Comp.; 800 bbls. daily, 2,172 ft.

F. C. Henderson No. 1 J. M. Sheppard, C NE NW sec. 35-17-15.
S.D.; W.O. 2,192 ft.

Ohio Oil Co. No. 6 R. Pumphrey, 520 ft. S, 50 ft. W, NE cor. SE NW sec. 12-17-14.
Drlg. 1,770 ft.

MISSISSIPPI

Clarke County

L. Beckwith et al No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C sec. 10-2n-16e.
Temp. abd.

Clarke County Oil Co. No. 1 Dora Butler, C SW SW sec. 15-2n-16e.
Set 10-in. 63 ft.

Greene County

United Gas Pub. Ser. Co. No. 1 William Unit, 200 ft. N, 100 ft. W, C SW sec. 6-15-5w.
Drlg. 2,550 ft.

Harrison County

Big Ridge Oil Co. No. 1 Hinzin, NE sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

Lafayette County

W. L. Stewart et al No. 1 Russell, 1,320 ft. N, 1,720 ft. E, SW cor. sec. 9-10s-1w.
Drlg. 2,670 ft.

Lauderdale County

Bob Dalton No. 1 Bounds, sec. 34-7n-15e.
S.D.; W.O. 1,600 ft.

Warren County

H. W. Elliott et al No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. sec. 14-14n-1e.
S.D.; W.O. 1,600 ft.

Washington County

Perkins & Dees No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. sec. 33-15n-3w.
S.D. 2,175 ft.

Winston County

Jack Vale et al No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW sec. 3-13n-14e.
Set 6-in. 2,212 ft.

ALABAMA

Houston County

Rice O. & G. Co. No. 1 Oakley Est., SE cor. NW SW sec. 9-3n-29e.
S.D. 2,035 ft.

Lamar County

DeSoto O. & G. Corp. No. 1 Gardner, sec. 22-15s-16w.
Drlg. 4,795 ft.

Mobile County

J. C. Prine No. 1 C. H. M. King, N½ NE sec. 4-1n-4w.
Drlg. 2,890 ft.

FLORIDA

Lake County

Oil Dev. Co. of Florida No. 1 South Lake, SE SE sec. 17-24s-25e.
Drlg. 2,575 ft.

LA.-ARK. PROVEN

NORTH LOUISIANA

Caddo—Rodessa

Ark.-La. Gas Co. No. 8 Rodessa O. & Land Co., 330 ft. S and E., NW cor. SE NE sec. 32-23-16.
Drlg. 4,958 ft.

Ark.-La. Gas Co. No. 9 Rodessa O. & Land Co., 330 ft. S, 530 ft. W, NE cor. SE SE sec. 13-23-16.
Drlg. 5,117 ft.

Ark.-La. Gas Co. No. 10 Rodessa O. & Land Co., 330 ft. S and W, NE cor. SE NE sec. 23-23-16.
Drlg. 4,189 ft.

Ark.-La. Gas Co. No. 11 Rodessa Oil & Land Co., NW cor. NE sec. 23-23-16.
Set 16-in. 237 ft.; set 10¾-in. 2,056 ft.

Bartex Pipe Line Co. No. 2 Norton Est., 330 ft. N and E, SW cor. NW NW sec. 17-23-15.
Drlg. 4,386 ft.

Bartex Pipe Line Co. No. 1 Rodessa O. & Land Co., 660 ft. N and W, SE cor. NE SE sec. 13-23-16.
Comp.; 500 bbls. daily, 6,010 ft.

Bartex Pipe Line Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15.
Drlg. 4,927 ft.

Bartex Pipe Line Co. No. 2 Robinson, center W½ NW SW sec. 17-23-15.
D.S. stuck 5,696 ft.

J. Edward Jones No. 1 Neugent, 25 ft. N and E, SW cor. Lot 14, Blk. 13, sec. 23-23-16.
Set 5¾-in. 6,007 ft.; T.D. 6,010 ft.

Haynes Prod. Co. No. 2 Tyson, 1,030 ft. S, 2,310 ft. W, NE cor. sec. 14-23-16.
Comp.; 172 bbls. per hr., 6,082 ft.

Haynes Prod. Co. No. 3 Tyson, NE cor. NW NE sec. 14-23-16.
Set 9⅝-in. 2,080 ft.; drlg. 3,915 ft.

Haynes Prod. Co. No. 4 Tyson, NW cor. NW NE sec. 14-23-16.
Set 12¼-in. 250 ft.; set 10-in. 2,100 ft.

Haynes Prod. Co. No. 1 Zylka, 330 ft. N and W, SE cor. sec. 9-23-16.
Comp. 5,000,000 ft. gas, 264 bbls. distillate, 5,994 ft.

Haynes Prod. Co. No. 8 Lawton, 333 ft. S, 337 ft. W, NE cor. SW NW sec. 14-23-16.
Comp.; 43 bbls. per hr., 6,015 ft.

Haynes Prod. Co. No. 9 Lawton, 1,320 ft. N, 2,310 ft. E, SW cor. sec. 14-23-16.
Set 7-in., 6,000 ft.; T.D. 6,010 ft.

Haynes Prod. Co. No. 3-A Mattie Pitts, SE cor. SE SW sec. 11-23-16.
Rigging up.

Haynes Prod. Co. No. 1-B Mattie Pitts, 330 ft. N and E, SW cor. NW SE sec. 13-23-16.
Comp. 135 bbls. per hr., 6,029 ft.

R. W. Norton No. 1 J. Elder Unit, NE cor. sec. 23-23-16.
Drlg. 3,146 ft.

Haynes Prod. Co. No. 7 Sexton, NW cor. SW NE sec. 14-23-16.
Drlg. 5,166 ft.

Haynes Prod. Co. No. 8 Sexton, SW cor. NW SE sec. 14-23-16.
Drlg. 5,585 ft.

Lion Oil Ref. Co. No. 1 J. M. Wynn, 1,900 ft. N, 660 ft. E, SW cor. sec. 9-23-15.
Comp.; 15,000,000 ft. gas, 350 bbls. distillate, 6,012 ft.

M. H. Marr No. 3 Hunter, NW cor. SW sec. 13-23-16.
Set 16-in. 250 ft.; set 10¾-in. 2,167 ft.

M. H. Marr No. 4 Hunter, 330 ft. S, 1,316 ft. E, NW cor. SW sec. 13-23-16.
Drlg. 5,808 ft.

R. W. Norton No. 1 Spearman Unit, 1,980 ft. N, 1,155 ft. W, SE cor. sec. 18-23-15.
Coring 6,064 ft.

R. W. Norton No. 1 Atkins, 330 ft. N and W, SE cor. NE NE sec. 18-23-15.
Drlg. 5,150 ft.

R. W. Norton No. 3 Tyson heirs, 330 ft. N and E, SW cor. SE NW sec. 13-23-16.
Drlg. 5,655 ft.

Pelican O. & Gasoline Co. No. 11 Sexton, 330 ft. S and W, NE cor. SE SE sec. 14-23-16.
Comp.; 200 bbls. daily, 6,034 ft.

Pelican O. & G. Co. No. 12 Sexton, 330 ft. N and E, SW cor. SE SE sec. 14-23-16.
Comp.; 30 bbls. per hr., 6,023 ft.

Pelican O. & Gasoline Co. No. 13 Sexton, 330 ft. N and W, SE cor. sec. 14-23-16.
Drlg. 5,671 ft.

Pelican Oil & Gasoline Co. No. 10 Sexton, 330 ft. S and E, NW cor. SE SE sec. 14-23-16.
Comp.; 24 bbls. per hr., 6,019 ft.

Travis et al No. 1 Raney, 990 ft. W of C sec. 17-23-15.
Set 16-in. 255 ft.; drlg. 1,675 ft.

Tri-State-Williams & Peterbaugh No. 1 Ellis, Lot 2, Blk. 20, Townsite, sec. 23-23-16.
Drlg. 200 ft.

United Gas Pub. Ser. Co. No. 5 Ardis & Co., SW SE sec. 14-23-16.
Set 16-in. 313 ft.

United Gas Pub. Ser. Co. No. 5 Bremer Unit, 620 ft. N, 148 ft. W, C sec. 23-23-16.
Drlg. 5,682 ft.

United Gas Pub. Ser. Co. No. 2 Brewer Unit, 657 ft. S, 578 ft. E, NW cor. sec. 29-23-16.
Drlg. 4,858 ft.

United Gas Pub. Ser. Co. No. 1 Harris, 331 ft. S, 1,123 ft. W, NE cor. sec. 15-23-16.
Coring 5,872 ft.

United Gas Pub. Ser. Co. No. 2 V. I. Miller, 330 ft. S, 990 ft. E, NW cor. sec. 14-23-16.
Coring 6,018 ft.

United Gas Pub. Ser. Co. No. 1 M. L. Pitts, 990 ft. N, 338 ft. E, SW cor. sec. 13-23-16.
Drlg. 4,759 ft.

United Gas Pub. Ser. Co. No. 2 M. L. Pitts Unit, NE SW sec. 13-23-16.
Set 16-in. 304 ft.

United Gas Pub. Ser. Co. No. 1 N. S. Spearman unit, sec. 18-23-15.
Drlg. 5,311 ft.

United Gas Public Service Co. No. 2 Spearman, 427 ft. S, 660 ft. E, NW corner sec 22-23-16.
D.S. stuck, 6,000 ft.

Untied Gas Pub. Ser. Co. No. 2 Thomas Unit, NE cor. sec. 23-23-16.
Drlg. 2,169 ft.

United Gas Public Service Co. No. 3 Tyson Unit, 1,730 ft. S, 356 ft. E, NW cor. sec. 13-23-16.
Comp.; 42 bbls. per hr., 6,033 ft.

United Gas Public Service Co. No. 5 Tyson Unit, 660 ft. S and E, NW cor. sec. 13-23-16.
Comp.; 63 bbls. per hr., 6,025 ft.

United Gas Pub. Ser. Co. No. 6 Tyson Unit, 306 ft. S, 318 ft. E, NW cor. sec. 13-23-16.
Drlg. 4,561 ft.

United Gas Pub. Ser. Co. No. 7 Tyson Unit, 345 ft. N, 336 ft. W, SE cor. sec. 11-23-16.
Drlg. 5,519 ft.

United Gas Pub. Ser. Co. No. 8 Tyson Unit, SW NW sec. 13-23-16.
Drlg. 125 ft.

United Gas Pub. Ser. Co. No. 7 Rodessa Oil & Land Co., 231 ft. N, 330 ft. W, SE cor. sec. 15-23-16.
Drlg. 5,026 ft.

United Gas Pub. Ser. Co. No. 8 Rodessa O. & Land Co., 1,020 ft. S, 1,062 ft. W, NE cor. sec. 22-23-16.
Set 7-in. 5,953 ft.; T.D. 5,990 ft.

United Gas Pub. Ser. Co. No. 9 Rodessa O. & Land Co., 1,091 ft. S, 371 ft. W, NE cor. sec. 22-23-16.
Running 7-in. cag.; T.D. 6,015 ft.

United Gas Pub. Ser. Co. No. 10 Rodessa O. & Land Co., 2,348 ft. S, 1,690 ft. W, NE cor. sec. 22-23-16.
Comp.; 42 bbls. per hr., 6,013 ft.

United Gas Pub. Ser. Co. No. 11 Rodessa Oil & Land Co., NW cor. sec. 23-23-16.
Set 16-in. 313 ft.; drlg. 1,100 ft.

United Gas Pub. Ser. Co. No. 3 I. L. Young, 1,944 ft. N, 605 ft. W, SE cor. sec. 21-23-16.
Drlg. 3,285 ft.

Sabine Parish—Zwolle

Ellis Prod. Co. No. 1 Williams, 330 ft. S and W, NE cor. SE NE sec. 22-7-11.
Drlg. 2,600 ft.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location;	S.T.R.	Depth	Status
Shell Oil Co., No. 11 Capitan, Santa Barbara Co. ...	32- 4-30	....	bldg. rig
Honolulu Oil Corp., No. 9 Elwood, Santa Barbara Co.	tideland	6,152	rd. sh. drlg.
Barnsdall Oil Co., No. 1 Elwood, Santa Barbara Co.	15- 4-29	3,208	will deepen
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	7,421	sd. sh. drlg.
Barnsdall-Rio Grande, No. 16 Elwood, Santa Barbara	15- 4-29	3,430	cleaning out
Bankline Oil Co., No. 7 Elwood, Santa Barbara Co..	tideland	3,639	flow. 1,350 b.d.
Signal Oil Co., No. 7 Elwood, Santa Barbara Co. ...	tideland	1,565	sd. sh. drlg.
Spalding, Caroline, No. 6 Elwood, Santa Barbara Co.	tideland	3,543	cleaning out
Spalding, Caroline, No. 13 Elwood, Santa Barbara Co.	tideland	....	bldg. rig
Santa Barbara Oil, No. 1 Carpinteria, Santa Barbara	29- 4-25	2,141	cleaning out
Calco Pet. Co., No. 1 Los Posas, Ventura Co.	17- 3-20	2,300	reaming
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	1,998	prod. test
Bankline Oil Co., No. 1 Sespe, Ventura Co.	36- 5-20	1,990	temp. sus.
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	....	material
Nelson & Co., No. 1 Sespe, Ventura Co.	28- 4-19	1,632	rd. sd. drlg.
Bestco Pet. Co., No. 1 Shiells Canyon, Ventura Co.	2- 3-19	261	sd. sh. drlg.
Bankline Oil Co., No. 2 Shiells Canyon, Ventura Co.	3- 3-19	3,674	pump. 641 b.d.
The Texas Co., No. 129 Shiells Canyon, Ventura Co.	4- 3-19	2,904	fish. bit
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	2,475	sd. sh. drlg.
Stella, E. F., No. 1 Simi, Ventura Co.	6- 2-17	864	hd. sd. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	7,073	P. H. 6,435
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-23	933	sd. sh. drlg.
Honolulu Oil Corp., No. 3 Rincon, Ventura Co.	tideland	2,985	cleaning out
Continental Oil Co., No. 2 Ojai, Ventura Co.	13- 4-23	1,017	swab. water
Continental Oil Co., No. 5 Miguelito, Ventura Co. ...	15- 3-24	5,501	flow. 500 b.d.
Continental Oil Co., No. 6 San Miguelito, Ventura Co.	24- 3-24	....	bldg. rig
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,140	sd. sh. drlg.
Cumberland Oil Co., No. 1 Devil's Den, Kern Co. ...	17-26-18	4,510	br. sh. drlg.
Beimac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	4,797	fish. D.P.
Bergman, H. L., No. 2 McKittrick, Kern Co.	30-30-22	....	rigging up
Berman Oil Co., No. 1 McKittrick, Kern Co.	32-29-22	....	rigging up
Standard Oil Co., No. 4 North Belridge, Kern Co. ...	36-27-20	3,171	sd. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	5,383	cmtd. 5,351
Belridge Oil Co., No. 6-1 North Belridge, Kern Co...	1-28-28	6,200	hd. sh. drlg.

Belridge Oil Co., No. 17-35 North Belridge, Kern Co.	35-27-20	....	rigging up
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,492	cleaning out
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	....	rigged up
Continental Oil Co., No. 7 North Belridge, Kern Co.	36-27-20	3,393	sd. sh. drig.
Standard Oil Co., No. 7 Delano, Kern Co.	34-24-23	2,784	sd. sh. drig.
Richardson & Heaston, No. 1 Kern Front, Kern Co.	5-28-28	3,100	dry; abd.
C. C. M. Oil Co., No. 14 Kern Front, Kern Co.	33-28-27	1,997	sd. sh. drig.
Republic Pet. Co., No. 7 Kern Front, Kern Co.	24-28-27	....	rigging up
Kreighs, C. M., No. 1 Kern Front, Kern Co.	4-28-27	2,714	cleaning out
Hjorth & Gordon, No. 1 Kern River, Kern Co.	36-28-27	1,574	sd. sh. drig.
General Pet. Corp., No. 5 Kern Front, Kern Co.	14-28-27	....	rigged up
Webber, T. A., No. 1 Kern Front, Kern Co.	16-28-27	....	rigging up
Standard Oil Co., No. 10 Kern Front, Kern Co.	5-28-27	2,680	cmtd. 2,609
Standard Oil Co., No. 11 Kern Front, Kern Co.	5-28-27	....	rigging up
Vega Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,725	bailing
Elliott Oil Co., No. 1 Fruitvale, Kern Co.	14-29-27	3,412	dry; abd.
Dixie Lee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,691	deepening
The Texas Co., No. 1 Fruitvale, Kern Co.	26-29-27	2,700	sd. sh. drig.
Magnet Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	....	rigging up
Mohawk Oil Co., No. 10 Fruitvale, Kern Co.	23-29-27	....	rigging up
North American, No. 1 Mountain View, Kern Co.	5-31-29	5,760	sd. sh. drig.
Hancock Oil Co., No. 5 Mountain View, Kern Co.	14-30-28	5,360	flow. 1,170 b.d.
Hogan Pet. Co., No. 3 Mountain View, Kern Co.	32-30-29	6,287	dry; abd.
Hogan Pet. Co., No. 9 Mountain View, Kern Co.	5-31-29	6,061	sd. sh. drig.
Hogan Pet. Co., No. 10 Mountain View, Kern Co.	29-30-29	4,982	sd. sh. drig.
Hogan Pet. Co., No. 11 Mountain View, Kern Co.	32-30-29	....	rigging up
Buffalo Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	5,161	cmtd. 4,812
Sheldon Oil Corp., No. 1 Mountain View, Kern Co.	19-30-29	4,966	will deepen
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	25-30-28	5,592	sd. sh. drig.
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	6,035	bailing
Mohawk Oil Co., No. 18 Mountain View, Kern Co.	30-30-29	961	sd. sh. drig.
Ohio Oil Co., No. 3 Mountain View, Kern Co.	33-30-29	5,159	P.B. 3,025
Allied Pet. Corp., No. 1 Mountain View, Kern Co.	19-30-29	2,161	sd. sh. drig.
Treasure Oil Co., No. 1 Mountain View, Kern Co.	12-30-28	....	rigging up
Shell Oil Co., No. 7 Mountain View, Kern Co.	32-30-29	5,873	sd. sh. drig.
Shell Oil Co., No. 8 Mountain View, Kern Co.	32-30-29	4,190	sd. sh. drig.
Shell Oil Co., No. 9 Mountain View, Kern Co.	32-30-29	....	bldg. rig
Shell Oil Co., No. 10 Mountain View, Kern Co.	32-30-29	....	bldg. rig
Standard Oil Co., No. 10 Mountain View, Kern Co.	19-30-29	5,949	completing
Standard Oil Co., No. 23 Mountain View, Kern Co.	13-30-28	5,494	sd. sh. drig.
Standard Oil Co., No. 24 Mountain View, Kern Co.	13-30-28	5,285	fish D.P.
Standard Oil Co., No. 25 Mountain View, Kern Co.	13-30-28	4,955	sd. sh. drig.
Mountain View Oil, No. 1 Mountain View, Kern Co.	25-30-28	5,814	pump. water
Jergins Trust, No. 5 Mountain View, Kern Co.	24-30-28	5,960	cleaning out
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	2,632	sd. sh. drig.
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	5,070	sd. sh. drig.
Shell Oil Co., No. 10 Round Mountain, Kern Co.	17-28-29	1,985	pump. 610 b.d.
Helm & Pruitt, No. 1 Round Mountain, Kern Co.	17-28-29	....	bldg. rig
California Western Oil, No. 7 Round Mountain, Kern	7-28-29	1,590	O. S. drig.
Barnsdall Oil Co., No. 2 Round Mountain, Kern Co.	7-28-29	1,825	completing
Barnsdall Oil Co., No. 3 Round Mountain, Kern Co.	7-28-29	....	rigging up
Mountain Pet. Co., No. 1 Round Mountain, Kern Co.	24-28-28	....	rigged up
Honolulu Oil Corp., No. 12 Round Mountain, Kern Co.	18-28-29	1,392	sd. sh. drig.
Berry Oil Co., No. 2 Edison, Kern Co.	10-30-29	1,950	testing
Bauer Oil Co., No. 1 Edison, Kern Co.	21-30-29	2,272	sd. sh. drig.
Fairfield Oil Co., No. 1 Edison, Kern Co.	27-30-29	....	rigging up
Whittier-Santa Fe Oil Co., No. 1 Edison, Kern Co.	31-30-29	....	rigging up
Monterey Expl. Co., No. 5 Edison, Kern Co.	14-30-29	2,535	sd. sh. drig.
Palm Holding Co., No. 1 Edison, Kern Co.	32-30-29	....	rigging up
The Texas Co., No. 1 Edison, Kern Co.	23-30-29	....	rigged up
General Pet., No. 13 Edison, Kern Co.	24-30-29	1,576	testing
Union Oil Co., No. 3 Edison, Kern Co.	14-30-29	2,488	cleaning out
Union Oil Co., No. 4 Edison, Kern Co.	14-30-29	971	sd. sh. drig.
General Pet. Corp., No. 1 Elk Hills, Kern Co.	5-30-24	5,895	sd. sh. drig.
Gibson Oil Co., No. 2 Maricopa, Kern Co.	6-11-23	2,882	sd. sh. drig.
Shell Oil Co., No. 1 Maricopa, Kern Co.	7-11-23	....	location
Hallmark Oil Co., No. 4 Maricopa, Kern Co.	25-12-24	2,292	sd. sh. drig.
Pet. Drlg. & Expl. Co., No. 2 Maricopa, Kern Co.	25-12-24	1,776	sd. sh. drig.
Evans, H. B., No. 12 Midway, Kern Co.	35-32-23	1,540	sd. sh. drig.
Ohio Oil Co., No. 5 Buena Vista, Kern Co.	31-31-26	5,258	3,000 m.c.f.
Silver Gate Oil & Gas Co., No. 1 Tejon, Kern Co.	7-10-19	3,005	cleaning out
Reserve Oil & Gas Co., No. 5 Tejon, Kern Co.	2-10-19	2,176	sd. sh. drig.
Reserve Oil Co., No. 1 Tejon, Kern Co.	33-11-19	6,032	resume work
Seaboard Oil Co., No. 3 Huron, Fresno Co.	30-16-14	2,498	sd. sh. drig.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	471	sd. sh. drig.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P. B. 10,760
K. N. D. A., No. 54 Kettleman North, Fresno Co.	24-21-16	8,800	O. S. drig.
Standard Oil Co., No. 2 Kettleman Middle, Kings Co.	29-22-19	7,997	hd. sh. drig.
Petroleum Securities, No. 2 Kettleman Middle, Kings	30-22-19	9,332	P. B. 4,780
Royalty Service Corp., No. 1 Pyramid Hills, Kings Co.	16-24-18	2,683	sd. sh. drig.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,546	cleaning out
Emerich Oil Co., No. 1 Cholame, San Luis Obispo Co.	22-32-22	1,840	cleaning out
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	cleaning out
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	1,401	cleaning out
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,481	sd. sh. drig.
Union-Hancock, No. 1 Tulare Lake, Kings Co.	28-22-20	2,913	rained out
Amerada Pet., No. 2 Tracy, San Joaquin Co.	15- 2-5	4,063	producing gas
Amerada Pet., No. 3 Tracy, San Joaquin Co.	22- 2-5	4,060	producing gas
Amerada Pet., No. 5 Tracy, San Joaquin Co.	15- 2-5	4,029	producing gas
Amerada Pet., No. 7 Tracy, San Joaquin Co.	15- 2-5	....	rigging up
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24-3	6,632	sd. sh. drig.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	7,332	cmtd. 7,250
Kenwood Pet. Corp., No. 1 Ducor, Tulare Co.	14-24-27	1,673	hd. sd. drig.
Murrell, T. R., No. 1 Los Banos, Merced Co.	8-10-9	1,343	sd. sh. drig.
The Texas Co., No. 3 Eureka, Humboldt Co.	22- 3-1	....	rigging up

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location;	S.T.R.	Depth	Status
Republic Pet. Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	5,187	sd. sh. drig.
Marvin, J. L., No. 1 El Segundo, Los Angeles Co.	7- 3-14	6,387	sd. sh. drig.
Cone Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	3,978	sd. sh. drig.
Shell Oil Co., No. 1 Moneta, Los Angeles Co.	33- 3-14	4,320	will deepen
Big Ben Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	....	bldg. rig
White Five Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	1,162	sd. sh. drig.
Sterling Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	4,200	will redrill
Dumas-Lewis Oil Co., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,550	sd. sh. drig.
B. & N. Oil Co., No. 1 Redondo, Los Angeles Co.	18- 4-14	....	rigging up
Clark, T. R., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,552	pump. 151 b.d
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co.	8- 4-14	4,050	deep test
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	6,494	sd. sh. drig.
Shell Oil Co., No. 1 Long Beach, Los Angeles Co.	13- 4-13	5,931	sd. sh. drig.
Mars Oil Co., No. 1 Athens, Los Angeles Co.	7- 3-13	4,850	redrig. 1,131
Continental Oil Co., No. 38 Seal Beach, Los Angeles Co.	5- 5-12	3,431	sd. sh. drig.
Engler & Long, No. 1 Artesia, Los Angeles Co.	25- 3-12	5,588	cleaning out
Standard Oil Co., No. 16 Inglewood Deep, Los Angeles	8- 2-14	2,095	sd. sh. drig.
Standard Oil Co., No. 17 Inglewood Deep, Los Angeles	8- 2-14	....	grading
Ohio Oil Co., No. 18 Del Rey, Los Angeles Co.	22- 2-15	5,397	sd. sh. drig.
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 2-15	5,181	sd. sh. drig.
Anglo American Oil Co., No. 1 Del Rey, Los Angeles	27- 2-15	6,939	C. P. 6,750
Herndon Dev. Co., No. 1 Rel Rey, Los Angeles Co.	27- 2-15	6,173	sd. sh. drig.
Union Oil Co., No. 20 Del Rey, Los Angeles Co.	27- 2-15	6,091	sd. sh. drig.
Union Oil Co., No. 21 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,597	hd. sh. drig.
Yant Pet. Corp., No. 2 Newhall, Los Angeles Co.	36- 4-16	....	rigging up
Eyer Pet. Co., No. 1 Compton, Los Angeles Co.	20- 4-13	3,287	sd. sh. drig.
Monarch Oil Corp., No. 1 Topanga, Los Angeles Co.	5- 1-16	652	cmtd. 625
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	4,961	sd. sh. drig.
Standard Oil Co., No. 80 Montebello, Los Angeles Co.	2- 2-12	3,771	sd. sh. drig.
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	2,543	cleaning out
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	6,276	sd. sh. drig.
Standard Oil Co., No. 83 Montebello, Los Angeles Co.	2- 2-12	....	rigging up
Standard Oil Co., No. 84 Montebello, Los Angeles Co.	2- 2-12	....	rigged up
Butler, C. R., No. 1 Montebello, Los Angeles Co.	14- 2-10	3,628	sd. sh. drig.
Woodward Oil Co., No. 3 Montebello, Los Angeles Co.	4- 2-11	....	rigging up
The Texas Co., No. 13 Montebello, Los Angeles Co.	5- 2-11	7,039	form. test
Universal Consd., No. 4 Montebello, Los Angeles Co.	5- 2-11	6,676	sd. sh. drig.
Universal Consd., No. 5 Montebello, Los Angeles Co.	5- 2-11	5,900	cmtd. 5,730
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,352	will redrl.
Richfield Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	....	rig; suspended
North American, No. 1 Montebello, Los Angeles Co.	30- 1-10	5,952	suspended
North American, No. 2 Montebello, Los Angeles Co.	5- 2-11	1,439	sd. sh. drig.
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	5,246	P. B. 4,990
Oil & Gas Associates, No. 1 Pico, Los Angeles Co.	9- 2-11	3,521	hd. sd. drig.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5-5	2,211	hd. sd. drig.
Stevens, F. E., No. 1 Corona, Riverside Co.	27- 3-7	....	rigging up
Hillman & Long, No. 1 Westminster, Orange Co.	14- 5-11	....	rigging up
Continental Oil Co., No. 1 Yorba, Orange Co.	21- 3-9	2,520	sd. sh. drig.

GULF COAST WILDCATS

Week Ending February 29

Raccoon Bend—Austin County

Humble O. & R. Co. No. 6-X Austin College, Wm. Harvey Sur.
T.D. 4,229 ft.; drill stem test 4,190-4,221 ft.; showed mud and salt water; P.B. 3,711 ft.

Humble O. & R. Co. No. 10-X Bellville, Wm. C. White Sur.
T.D. 4,172 ft.; top sand at 4,024 ft.; 7-in. csg. at 4,021 ft.; P.B. to 4,152 ft.; I.P. 12 bbls. per hour, ¼-in. choke; T.P. 390 lbs.; C.P. 870 lbs.

Hastings—Brazoria County

Humble O. & R. Co. No. 4 Cannon, H.T.& B. Sur. No. 36. Derrick.

Humble O. & R. Co. No. 3 Cannon, H.T.& B. Sur. No. 36.
T.D. 6,050 ft.; 7-in. csg. at 5,960 ft.; waiting on cmt.

Stanolind O. & G. Co. No. 1 R. L. Autrey, H.T.&B. Sur. No. 37.
T.D. 6,080 ft.; 7-in. csg. at 5,933 ft.; waiting on cmt.

Stanolind O. & G. Co. No. 2 Autrey, H. T.&B. Sur. No. 37.
T.D. 6,080 ft.; I.P. 111 bbls. in 4 hrs., ¼-in. choke; T.P. 650 lbs.; C.P. 800 lbs.

Stanolind O. & G. Co. No. 4 Grote, A.C. H.&B. Sur. No. 2. Rig up.

Stanolind O. & G. Co. No. 3 Kidd, A.C.H. &B. Sur. No. 2.
T.D. 6,075 ft.; I.P. 56 bbls. in 2 hrs., ¼-in. choke; T.P. 875 lbs.; C.P. 625 lbs.

Stanolind O. & G. Co. No. 4 Shaw, H.T.& B. Sur. No. 36.
T.D. 5,715 ft.; running 7-in. csg.

Stanolind O. & G. Co. No. 5 Shaw, H.T.& B. Sur. No. 36. M.I.R.

Manvel—Brazoria County

Bowles & Barsodi No. 5 Norvell, Lot 45, sec. 23, H.T.&C. Sur. Derrick.

Burton Drlg. Co. No. 1 Gubbert, center of Lot No. 7 H.T.&B. Survey No. 23.
T.D. 4,001 ft.; coring ahead.

Texas Co. No. 13-A Belcher, H. N. Little Sur.
T.D. 4,303 ft.; P.B. 3,730 ft.; 7-in. csg. 3,694 ft.; P.B. to 3,480 ft.; abd.

Texas Co. No. 19-B Belcher, H. N. Little Sur.
T.D. 5,150 ft.; I.P. 420 bbls. per day, ¼-in. choke; T.P. 560 lbs.; C.P. 640 lbs.

Texas Co. No. 20 Houston Oil Field Assn. Lot 21, A.C.H.&B. Sur.
Drlg. in shale 3,881 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 4 Broussard, H.& T.C. Sur.
T.D. 7,083 ft.; 7-in. csg. at 7,042 ft.; waiting on cmt.

Humble O. & R. Co. No. 9 Broussard, H. &T.C. Sur. No. 63. Rig up.

Humble O. & R. Co. No. 9 Clark, H.&T. C. Sur.
Drlg. shale and lime at 5,780 ft.

Humble O. & R. Co. No. 4 Tyrell, H.&T.C. Sur.
Drlg. shale 5,537 ft.

Humble Oil & Ref. Co. No. 14 Middleton, sec. 58, H.&T.C. Sur.
Coring in sand 7,082 ft.

Humble O. & R. Co. No. 7 White, James McGahey Sur.
Drlg. shale and lime at 6,270 ft.

Humble O. & R. Co. No. 1 Wilcox, H.&T. C. Sur.
Drlg. shale 4,911 ft.

Sun Oil Co. No. 7 White, J. McGahey Sur.
T.D. 7,084 ft.; 7-in. csg. at 7,036 ft.

Sun Oil Co. No. 8 White, J. McGahey Sur.
T.D. 7,080 ft.; 7-in. csg. at 7,030 ft.; preparing to test.

Sun Oil Co. No. 9 White, J. McGahey Sur. Derrick.

Sun Oil Co. No. 10 White, J. McGahey Sur. Derrick.

Barbers Hill—Chambers County

Sinclair Prairie No. 19 Wilburn, Henry Griffith Sur.
Drlg. sand 5,220 ft.

Sun Oil Co. No. 18 Wilburn, Wm. Hodges Sur.
T.D. 5,619 ft.; preparing to run screen.

Stanolind Oil & Gas Co. No. 20 Wilburn, Wm. Hodges Sur.
T.D. 6,002 ft.; set 7⅝-in. csg. at 5,110 ft.; P.B. to 4,405 ft.

Stanolind O. & G. Co.'s No. 29 Chambers Wm. Bloodgood Sur. Derrick.

Stanolind O. & G. Co.'s No. 31 Chambers W. Bloodgood Sur.
T.D. 5,358 ft.; P.B. to 4,408 ft.; pumping 140 bbls. per day.

Superior Oil Co. No. 2-B Barber.
Drlg. oil sand 3,270 ft.

Texas Gulf Prod. Co. No. 7 Wilburn, Wm. Hodges Sur.
T.D. 5,350 ft.; sand showing oil; 7-in. csg. at 5,263 ft.; P.B. to 5,030 ft.; swabbing.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Cooper Heirs, S. Burney Sur.
T.D. 6,625 ft.; top sand 6,601 ft.; 7-in. Cored from 6,625-30 ft.; P.B. to 6,611 ft.; I.P. 118 bbls. per day, ¼-in. choke; T.P. 100 lbs.

Stanolind O. & G. Co.-State No. 1 Turtle Bay.
Drlg. shale 2,577 ft.

Lost Lake—Chambers County

Pure Oil Co. No. 20 Mayes, E. H. R. Wallace Sur.
T.D. 2,843 ft.; preparing to make drill stem test.

Big Creek—Fort Bend

Gulf Prod. Co. No. 67 Davis, M. Young Sur.
Drlg. shale 3,910 ft.

Blue Ridge—Fort Bend County

Gulf Prod. Co. No. 19-B Bassett Blakely, E. Drew Survey.
Drlg. shale 4,433 ft.

S. S. Rainer No. 1 J. M. Davidson, S. Poitevent Sur. No. 3. Rig up.

Orchard—Fort Bend County

Gulf Prod. Co. No. 44 Moore, Leo Burknapp Sur.
Drlg. shale 5,518 ft.

Gulf Ref. Co. No. 45 Moore, German Immigration Sur. No. 8.
Drlg. shale 6,343 ft.

Gulf Prod. Co. No. 3-A Moore, Leo Burknepp Sur.
Drlg. sandy lime 1,539 ft.

Thompson—Ft. Bend County

Gulf Prod. Co. No. 28 Booth, S. Kennedy Sur.
Shale 5,150 ft.; comp.; no gauge.

High Island—Galveston County

Stanolind O. & G. Co. No. 5 B.&N.O., Fitzsimmons Sur.
Drlg. shale 5,647 ft.

Stanolind O. & G. Co. No. 54 Cade, W. Fitzsimmons Sur. Rig up.

Stanolind O. & G. Co. No. 55 Cade, Wm. Hudson Survey. Derrick.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, M. Dunman Sur. Rig up.

Dickinson—Galveston County

Coast Pet. Co. No. 3 Stewart, W. K. Wilson Sur.
S.D. at 5,100 ft.

Humble O. & R. Co. No. 2-B Bayou Dev. Co.
Drlg. shale and sand at 6,320 ft.

Humble O. & R. Co. No. 3-B Stewart, J. Sellers Sur.
T.D. 8,629 ft.; P.B. 8,550 ft.; tested mud, oil and S.W.; P.B. to 8,470 ft.; D.S. test from 8,445-70 ft.; showed oil and S.W.; perforated 8,445-64 ft.; I.P. 258 bbls. per day, ¼-in. choke; T.P. 2,000 lbs.; C.P. 2,450 lbs.

Humble O. & R. Co. No. 5-A Stewart, John Sellers Sur. Rig.

Humble O. & R. Co. No. 1 W. H. Wilson, Blk. 103, San Leon Farm Subd., A. E. Edwards Sur.
Drlg. shale at 2,250 ft.; 10¾-in. csg. at 1,938 ft.

Pure Oil Co. No. 3 Shelar, B.B.B.&C. Sur.
T.D. 6,282 ft.; surveying hole.

Stanolind O. & G. Co. No. 3 State, Tract 3.
T.D. 8,132 ft.; 7-in. csg. 8,080 ft.; P.B. and drilled to 8,050 ft.; cemented back T.D. 4,950 ft.; running screen and tubing.

Stanolind O. & G. Co. No. 4 State, Tract 3. Derrick.

Stanolind O. & G. Co. No. 5 State, Tract 3. Rig up.

Batson—Hardin County

Deering et al No. 2 Jordan, W. Donoho Sur. Rig up.

John Deering et al No. 1 J. W. Whitley, W. Donoho Sur.
Abd. 5,006 ft.

Saratoga—Hardin County

Hines Oil Co. No. 2 Caswell, B.B.B.&C. R.R. Co. Sur. No. 72.
T.D. 4,950 ft. (corrected).

Pierce Junction—Harris County

Harrison and Abercrombie No. 3 Ritter, J. Hamilton Sur.
Drlg. shale and lime at 2,634 ft.

Rio Bravo Oil Co. No. 10 fee, B.B.B.&C. Sur.
Drlg. shale at 3,418 ft.

Rio Bravo Oil Co. No. 4 G.H.&S.A., G.H.& S.A. R.R. track.
T.D. 4,263 ft.; 7-in. csg. at 4,234 ft.; waiting on cmt.

Humble—Harris County

Texas Co. No. 50 Stevenson, J. B. Stevenson Sur.
T.D. 3,526 ft.; abd.

Mykawa—Harris County

West Prod. Co. No. 8 Irwin, W. B. Walker Sur.
Drlg. shale 3,500 ft.

South Houston—Harris County

Showers and Moncrief No. 1 S. S. Vallos, Mary Nichols Sur.
T.D. 1,260 ft.; drill stem stuck.

Stanolind O. & G. Co. No. 2 First National Bank, Callahan and Vince Sur.
Drlg. sandy shale at 1,507 ft.

Stanolind O. & G. Co. No. 1 Griffin, H. T.&B. Sur. No. 36.
T.D. 4,875 ft.; 7⅝-in. csg. at 4,830 ft.; swabbing.

Stanolind O. & G. Co. District No. 10 (workover).
T.D. 6,850 ft.; S.D.

Stanolind O. & G. Co. No. 1, District No. 28, center of Lot 9, Blk. 111, H.T.&B. Sur. No. 5.
T.D. 4,775 ft.; 7-in. csg. at 4,616 ft.

Stanolind O. & G. Co. No. 1, District 46, center of Lot 8, Blk. 158, H.T.&B. Sur. No. 5.
Drlg. in lime at 3,312 ft.

Sterling O. & R. Co. (Diadem) No. 1 Summers, cen. Blk. 138, H.T.&B. Sur. No. 5.
Drlg. sand and shale at 4,894 ft.

Tomball—Harris County

Amerada Petroleum Corp. No. 4 Nelson, 466 ft. S of N line and 333 ft. E of W J. House Sur.
T.D. 5,592 ft.; 7-in. csg. 5,586 ft.; I.P. 5.44 bbls. per hour, ¼-in. choke.

Humble O. & R. Co. No. 2 Frederick, J. M. Hooper Sur.
Drlg. shale and lime at 4,932 ft.

Humble O. & R. Co. No. 3 Akob, J. M. Hooper Sur.
Drlg. shale and lime at 4,361 ft.

Humble O. & R. Co. No. 1 Tomball Townsite Unit No. 9, J. House Sur.
T.D. 5,377 ft.; 7-in. csg. 5,272 ft.; I.P. 564 bbls. per day, ¼-in. choke; T.P. 450 lbs.; C.P. 700 lbs.

Shell Pet. Corp. No. 1 Robertson.
Drlg. sand at 280 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Broussard C. Williams Sur.
Drlg. shale and lime at 2,628 ft.

Humble O. & R. Co. No. 2 R. C. Miller, A. Savery Sur.
T.D. 250 ft.; 16-in. csg. at 210 ft.

Glenn McCarthy No. 1 Bessie Longe, H. Williams Sur.
Cored sand 6,215-25 ft.; last 3 ft. of core was clean sand with show of gas and salt water.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2-A Pipkin & Davis, Wm. McFaddin Sur.
T.D. 6,698 ft.; milling at 6,615 ft.

Fannett—Jefferson County

Blue Eagle Oil Co. No. 2 Junker, W. H. Smith Sur.
Drlg. lime rock at 5,240 ft.

Gulf Oil Corp. No. 18 Thomas, W. H. Smith Sur.
Rig up.

Cleveland—Liberty County

Gulf Prod. Co. No. 13-C Kirby Lbr. Co., John Pleasant Sur.
T.D. 5,876 ft.

Esperson—Liberty County

General Crude Oil Co. No. 23 Esperson, Fisher, Sur.
Rig up.

Bay City—Matagorda County

Skelly Oil Co. No. 1 E. C. Metzger, M. Cummings Sur.
Drlg. shale 6,815 ft.

Skelly Oil Co. No. 4-B Cobb, M. Cummings Sur.
Drlg. shale 3,510 ft.

Skelly Oil Co. No. 5-B Cobb, M. Cummings Sur.
Drlg. shale 7,230 ft.

Markham—Matagorda County

Hamell & Hamell No. 1 Meyers.
Abd. 3,579 ft.

H. & A. No. 6 Kountze, 500 ft. E of No. 5, 1,300 ft. E of W line of lease, H. Parker Survey.
T.D. 4,106 ft.; I.P. 450 bbls. per day, ¼-in. choke; T.P. 440 lbs.

Conroe—Montgomery County

Sun Oil Co. No. 27 Foster.
Drlg. shale and lime at 1,519 ft.

Orange—Orange County

T. J. Ward et al No. 1 E. W. Brown, S. M. Luce Sur.
Building road.

Port Neches—Orange County

Texas Co. No. 6-B Polk, J. Beaumont Sur.
Drlg. shale 6,610 ft.

Livingston—Polk County

Hawkeye Pet. Co. No. 2 Nelson, A. Viesca Sur.
T.D. 4,248 ft.; 7-in. csg. 4,229 ft.; swbng.

Humble O. & R. Co. No. 26 Granbury, A. Viesca Sur.
T.D. 4,205 ft.; setting 7-in. csg.

Greta—Refugio County

Hewitt and Daugherty No. 21 Lambert, Blk. 32, C. Hardwick Sur.
Oil sand 5,842-60 ft.; 7-in. csg. set 5,842 ft.; I.P. 330 bbls. per day, 3/16-in. choke; T.P. 900 lbs.; C.P. 950 lbs.

United Prod. Co. No. 22 Lambert, Blk. 32, Hardwick Sur.
T.D. 5,258 ft.; P.B. to 5,450 ft.; drilled to 5,549 ft. and abd.

Refugio—Refugio County

Local Oil Co. No. 1 W. L. Rea, Refugio Townsite.
Drlg. shale 2,230 ft.

Tomoconnor—Refugio County

Quintana Oil Co. No. 30-A O'Connor, Swisher Sur.
T.D. 5,885 ft.; 7-in. csg. at 5,844 ft.; completing.

Quintana Oil Co. No. 32-A O'Connor, Swisher Sur.
Drlg. shale at 5,420 ft.

Quintana Oil Co. No. 33-A O'Connor, Swisher Sur.
Derrick.

Placedo—Victoria County

American Liberty Oil Co. No. 3 Gray, S. A.&M.G. Sur.
Sand from 4,760-66 ft.; running 7-in. csg.

Barnsdall Oil Co. No. 2 W. R. Smith, Lot 7, A. Murray Sur.
Drlg. shale at 5,730 ft.

Barnsdall Oil Co. et al No. 1 J. S. Wheless, J. M. Bronson Sur. No. 8.
T.D. 4,765 ft.; reaming to set csg.

Barnsdall Oil Co. No. 3 J. M. Pickering S.A.&M.G. Sur. No. 5.
Rig up.

Eastern Texas Prod. Co. No. 1 Krappa, Lot 12, Wm. Rupley Sur.
T.D. 6,480 ft.; running 5 3/16-in. csg.

Harrison & Abrocrombie No. 1 C. O. Vess, J. M. Bronson Sur.
Rig up.

National Pet. Corp. No. 1 J. Stehle, Piedras Geilardo Sur.
Drlg. shale 4,860 ft.

Superior O. & G. Co. et al No. 2 Jones, Wm. Rupley Sur., A-290.
T.D. 4,741 ft.; 7-in. csg. at 4,733 ft.; made gas, killed well and preparing to deepen.

Clay Creek—Washington County

Sun Oil Co. No. 3 A. Draper, J. F. Perry Sur.
Coring at 1,557 ft.

Louise—Wharton County

Pure Oil Co. No. 1 Jones, Morris & Cummings Sur. No. 19.
Comp. 597,000 ft. gas per day.

Pure Oil Co. No. 3 Weaver, sec. 22, Morris & Cummings Sur.
Drlg. shale at 4,885 ft.

Pickett Ridge—Wharton County

Texas Co. No. 10-A Pierce, I.&G.N. Sur. No. 39.
T.D. 4,705 ft.; perforated csg. 4,694-96 ft. with 12 shots; running tubing.

Texas Co. No. 11-A Pierce, I.&G.N. R.R. Sur. No. 38.
T.D. 4,709 ft.; 7-in. csg. at 4,702 ft.

Texas Co. No. 12-A Pierce, I.&G.N. Sur. No. 38.
Drlg. shale and boulders at 1,626 ft.

Texas Co. No. 13-A Pierce, I.&G.N. Sur.
Derrick.

Withers—Wharton County

Texas Co. No. 3-C Pierce, J. Caldwell Sur.
Rig up.

Texas Co. No. 4-C Pierce, J. Caldwell Sur.
Building road.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 11 Bay St. Elaine, sec. 17-22s-15e.
Drlg. hard sand 6,477 ft.

Bayou Mallet—Acadia Parish

Superior Oil & Prod. Co. No. 1 Bradley, sec. 47-7s-1e.
Rig up.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 26 Watkins, sec. 18-12s-12w.
Derrick.

Shell Pet. Corp. No. 28 Watkins.
T.D. 4,339 ft.

Shell Pet. Corp. No. 31 Watkins, sec. 8-12s-12w.
Coring sand 5,073 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 2 Terrebonne Bay, sec. 19-22s-26e.
Drlg. hard sand 5,343 ft.

Texas Co. No. 32 State, sec. 17-22s-26e.
T.D. 4,028 ft.; made an electrical coring test.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 12 School Land, sec. 16-14s-13w.
Coring sand 3,215 ft.

Magnolia Pet. Co. No. 15 Cameron Meadows, sec. 21-14s-13w.
T.D. 5,262 ft.; top oil sand at 5,254 ft.; 7-in. csg. at 5,242 ft.; I.P. 71 bbls. per day on pump.

Texas Co. No. 2 Miami Corp., sec. 15-14s-13w.
Derrick.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 1 Beasley, sec. 52-1s-2e.
Waiting on cmt. 1,672 ft.

Texas Co. No. 1 Weil, sec. 53-1s-2e.
Rig up.

Choctaw Dome—Iberville Parish

Standard Oil Co. No. 5 Myrtle Grove Wilburt, sec. 52-9s-11e.
T.D. 5,828 ft.; P.B. to 3,000 ft.; to sidetrack.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 32-10s-2e.
Derrick.

Humble O. & R. Co. No. 10 Community, sec. 32-10s-2e.
Drlg. sand and rocks 1,937 ft.

Humble O. & R. Co. No. 6 Gumble, sec. 33-10s-2e.
Drlg. sand 4,901 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e.
Drlg. in lime at 2,406 ft.

Edgerly—Calcasieu Parish

J. G. Sutton No. 17 Lillard, sec. 28-9s-11w.
Drlg. shale 1,550 ft.

Garden Island Bay—Plaquemines Parish

Texas Co. No. 18 State, sec. 37-23s-33e.
Rig up.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 10 Castle, sec. 14-9s-8w
Drlg. shale 6,669 ft.

Fohs Oil Co. No. 1 Frost, sec. 11-9s-8w.
Spudded.

Texas Co. No. 8 Nickerson, sec. 13-9s-8w
Drlg. shale and lime 4,170 ft.

Union Sulphur Co. No. 5 Castle, sec. 14-9s-8w.
T.D. 7,259 ft.; P.B. to 5,950 ft.; waiting on cmt.

Union Sulphur Co. No. 6 Castle, sec. 13-9s-8w.
T.D. 6,112 ft.; coring ahead.

Union Sulphur Co. No. 6 Clara Barbe Est., 548 ft. S and 387 ft. W of NE cor. of sec. 11-9s-8w.
Drlg. shale and lime 6,627 ft.

Union Sulphur Co. No. 5 Powell Lumber Co., sec. 12-9s-8w.
Drlg. shale 4,712 ft.

Union Sulphur Co. No. 16 State, sec. 11-9s-8w.
Derrick.

Union Sulphur Co. No. 18 State, sec. 12-9s-8w.
Drlg. water sand 1,012 ft.

Union Sulphur Co. No. 13 State, sec. 13-9s-8w.
Rigging up.

Gueydan—Vermillion Parish

Pure Oil Co. No. 6 Alliance Trust, sec. 34-11s-1w.
T.D. 9,545 ft.; sidetracked, T.D. 7,204 ft.; abd.

Hackberry—Cameron Parish

Gulf Ref. Co. No. 20 Irwin, sec. 12-12s-10w.
Drlg. shale at 7,116 ft.

Stanolind O. & G. Co. No. 21-B Gulf Land, sec. 14-12s-10w.
Drlg. in lime 5,304 ft.

Stanolind O. & G. Co. No. 22-B Gulf Land, sec. 14-12s-10w.
T.D. 5,887 ft.; 7-in. csg. at 5,864 ft.; waiting on cmt.

Texas Co. No. 19-B State, sec. 13-12s-9w.
Drlg. in shale 62 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 19 Heyd, sec. 13-9s-7w.
Coring shale and lime at 8,800 ft.

Shell Pet. Corp. No. 20 Heyd, sec. 13-9s-7w.
Drlg. shale 4,468 ft.

Shell Pet. Corp. No. 5 Tuton, sec. 12-9s-7w.
Drlg. sandy shale 6,580 ft.

Shell Pet. Corp. No. 7 Stafford, sec. 18-9s-7w.
Shale 5,642 ft.; waiting on rig.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Roane, sec. 40-12s-9e.
T.D. 6,665 ft.; made drill stem test 6,653-65 ft.; tested 42 stands of oil.

Jennings—Acadia Parish

Fort City Oil Co. No. 17 Heywood, sec. 41-9s-2w.
Drlg. gumbo at 1,986 ft.

Lee Guthrie No. 2 Houssiere-Latriele.
Drlg. shale at 1,880 ft.

Shell Pet. Corp. No. 1 Conover, sec. 40-9s-2w.
Rig up.

Lafitte—Jefferson Parish

Texas Co. No. 3 Rigolettes, sec. 30-17s-24e.
Drlg. in shale 43 ft.

Texas Co. No. 3 Lafitte, sec. 19-17s-24e.
T.D. 3,215 ft.; fishing.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 4 LaFourche Basin Levee sec. 15-18s-25e.
Drlg. sand at 3,546 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 33 Lake Barre.
T.D. 3,790 ft.; I.P. 366 bbls. per day, ½-in. choke.

Texas Co. No. 37 State, sec. 20-12s-20e.
Rig up.

Lake Pelto—Terrebonne Parish

Texas Co. No. 14 State, sec. 8-23s-18e.
T.D. 7,346 ft.; P.B. and sidetracked; drlg. sand and shale 6,185 ft.

Leesville—LaFourche Parish

Gulf Prod. Co. No. 8 Allen Land Co., sec. 21-21s-22e.
Waiting on cmt. at 1,119 ft.

Texas Co. No. 23 Leesville, sec. 26-21-22.
Derrick.

Texas Co. No. 41 Leesville, sec. 27-21s-22e.
T.D. 4,311 ft.; I.P. 1,858 bbls. per day, ½-in. choke.

Texas Co. No. 43 Leesville (L.L.&E.), sec. 26-21s-22e.
Drlg. shale 3,464 ft.

Texas Co. No. 44 Leesville, sec. 27-21s-22e.
Rig up.

Roanoke—Jefferson Davis Parish

Gissell and Gulf Prod. Co. No. 1 T. A. Anding, sec. 2-9s-4w.
Drlg. shale and lime 7,469 ft.

Shell Pet. Corp. No. 2 Carter, sec. 1-9s-4w.
T.D. 8,680 ft.; 8-min. drill stem test from 8,652-80 ft.; recovered 2½ bbls. oil.

Humble O. & R. Co. No. 2 Nelson H. Thomas, sec. 11-9s-4w.
Drlg. shale and lime at 7,145 ft.

Humble O. & R. Co. No. 3-B De Vilbiss, sec. 11-9s-4e.
Drlg. shale and lime 8,555 ft.

Port Barre—St. Landry Parish

Gulf Ref. Co. No. 1 Sibille, sec. 7-6s-7e.
Drlg. sand and shale at 5,943 ft.

Pacheon Oil Co. No. 1 Gaudet, Sec. 4-6s-6e.
T.D. 3,437 ft.; set 6⅝-in. csg. at 3,427 ft.; bailed dry; S.D.

Pan American Prod. Co. No. 1 Watkins Reaming 5,026 ft.

St. Martinville—St. Martin Parish

Coastal Plains Oil Corp. No. 1 A. L. Domengeaux, sec. 57-11s-6e.
S.D. 5,841 ft.

Tide Water Oil Co. No. 2 Smedes, sec. 57-11s-6e.
T.D. 8,714 ft.; P.B. to sidetrack.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-4e.
Building road.

Starks—Calcasieu Parish

L. R. Welhite No. 1 Industrial Lbr. Co., sec. 19-9s-12w.
T.D. 4,160 ft.; drill stem stuck; fishing.

Sulphur—Calcasieu Parish

Union Sulhur Co. No. 819 fee, sec. 29-9s-10w.
T.D. 4,260 ft.; I.P. 660 bbls. per day, 18/64-in. choke.

Union Sulphur Co. No. 820 fee, sec. 29-9s-10w.
T.D. 4,275 ft.; P.B. to 2,450 ft.

Sweet Lake—Calcasieu Parish

Pure Oil Co. No. 13 Yount Lee, sec. 13-13-13.
T.D. 7,701 ft.; set 1,275 ft. of 9⅝-in. csg. and 6,439 ft. of 6⅝-in. csg. at 7,701 ft.; temporarily S.D.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 C. O. Ardoin, C sec. 28-7s-2w.
Drlg. shale 7,196 ft.; 10-in. csg. at 1,557 ft.

Continental Oil Co. No. 2 Homeseekers, sec. 29-7s-2w.
Derrick.

Continental Oil Co. No. 1 D. J. Miller, sec. 28-7s-2w.
T.D. 8,385 ft.; set 7-in. csg. on bottom; I.P. 276 bbls. in 16½ hrs., ¼-in. choke; T.P. 2,400 lbs.; C.P. 2,500 lbs.

Vinton—Calcasieu Parish

Wilson Broach Oil Co. No. 18 Strip, sec. 34-10s-12w.
Drlg. shale and lime at 3,345 ft.

Ged Oil Co. No. 1 Lisco, sec. 33-10s-12w.
Abd. at 4,174 ft.

Gulf Prod. Co. No. 10 Gardner Est., sec. 33-10s-13w.
Drlg. shale and lime at 3,360 ft.

White Castle—Iberville Parish

Shell Pet. Corp. No. 10 Wilbert, sec. 1-11s-12e.
Coring sand 5,864 ft.

Miscellaneous Wildcats

TEXAS

Brazoria County

Gulf Prod. Co. No. 1 J. E. Fairfield, A. Robinson Survey.
Drlg. shale at 5,800 ft.

Strake Oil Corp. et al No. 1 D. K. Poole, J. W. Harding Sur.
Spudded 50 ft.

Texas Gulf Producing Co. No. 1 Sparks.
Moving in material.

Chambers County

Black Gold Oil Co. No. 1 Borrow, Ruben Borrow Sur.
Drlg. shale at 8,067 ft.

Calhoun County

Continental Oil Co. No. 2-A American Realty Co., Pedro Garcia Sur., Lot 1, Blk. "C."
T.D. 9,083 ft.; set 5⅜-in. csg. on bottom; csg. collapsed; plugged off the bottom of csg. at 8,010 ft.

Crown Central Pet. Co. No. 1 M. C. Driscoll, Benito Morales Sur.
Derrick.

Humble O. & R. Co. No. 1 Patrick H. Welder, Jose Maria Rios Sur.
Drlg. shale 1,530 ft.

Colorado County

Coyle & Concord No. 1 fee, sec. 45, I.&G. N. Sur.
T.D. 6,755 ft.; P.B. and sidetracked at 5,800 ft.; coring oil sand at 5,927 ft.

Galveston County

Sun Oil Co. No. J. D. Hughes, W. M. C. Baker Sur.
T.D. 8,600 ft.; drlg. out plug.

Grimes County

Dr. Marshall et al No. 1-B Todd.
T.D. 2,826 ft.; P.B. to 2,818 ft.; well flowing brackish water with small amt. of gas through ¼-in. choke; S.D.

Harris County

Cockburn Oil Co.-Shell Pet. Corp. No. 1 Tomkins, N. Lynch Sur., Abst. No. 44.
S.D. at 6,563 ft.

Harlyn Oil Co. No. 1 Harris County Houston Ship Channel, Richard and Robert Vince Sur.
Drlg. 5,964 ft. in lime and shale.

A. C. Hill No. 1-A Swilley, C. Victor Blanco Sur.
Drlg. shale 6,937 ft.

Hardin County

Republic Prod.-Houston Oil Co. No. 1 A A. Burrell, A. A. Burrell Sur. No. 5-A.
Abd. 7,778 ft.

Jefferson County

Sun Oil Co. No. 1 Herbert & Broussard B. Blackman Sur., Abst. No. 2.
T.D. 8,824 ft.; P.B. and sidetracked at 8,282 ft.; set whipstock at 7,403 ft.; milling at 7,388 ft.

Tatum and Pendergrass No. 1 B. W Owens, Joseph Grigsley Sur.
S.D. 1,850 ft.; (corrected).

Lavaca County

Goode et al No. 1 J. H. Staffa, W. R. Hensley Sur.
S.D. at 2,230 ft.

Matagorda County

Continental Oil Co. No. 1 Feife, J. S Criswell Sur.
T.D. 7,629 ft.; P.B. to 7,485 ft.

John Deering No. 1 R. A. Estelle, Tone and Jameson Sur.
S.D. 6,525 ft.

Hammon Exploration Co. No. 1 Cleveland, E. Hall Sur.
T.D. 9,439 ft.; set 5-in. liner from point of 7-in. csg. set at 8,350 ft.

Helmerich & Payne, No. 1 Hawkins, D. McCarthy Sur.
T.D. 7,831 ft.; fishing.

H. M. Smith et al No. 2 Wadsworth, Lot 33, Blk. 4, S. R. Fisher Sur.
T.D. 1,400 ft.; running 13⅜-in. csg.

Sun Oil Co. No. 1 Craig, Thomas Williams Sur.
Drlg. shale at 5,437 ft.

Montgomery County

Chapman and Smith No. 1 Delta Land & Timber Co., T. Shepperd Sur. No. A-488.
Drlg. shale 1,750 ft.

Chapman & Smith No. 2 Delta Land & Timber Co., T. Shepherd Sur.
Drlg. shale at 1,835 ft.

Charles Gohlson et al No. 1 T. J. Johnson, Wm. Weir Sur.
Waiting on cmt. at 214 ft.

Jack Frazier No. 1 Maxey, James Brown Sur.
Rig up.

W. M. S. Thompson No. 1 Scott, F. A B. Wheeler Sur.
T.D. 3,674 ft.; P.B. to 3,200 ft.; milled out of csg. at 2,190 ft.; abd. 2,535 ft.

Orange County

Blue Line Oil Co. No. 1 J. E. Peet Richard, Ballou Sur.
T.D. 2,544 ft., reaming.

Polk County

J. P. Lightfoot et al No. 1 Lynch Davidson, Houston County School Land Sur., Abst. No. 270.
Shale 1,039 ft.; no report.

San Jacinto County

Cockburn Oil Co. No. 1 Kilburn Moore, J. F. De Rumayor Sur.
Abd. at 5,052 ft.

John Deering et al No. 1 Randolph, V. Flores Sur.
Derrick.

Goldston & Decker No. 1 Randolph, Vital Flores Sur.
Moving in.

Victoria County

Guiberson and Pettit et al No. 1 Wedemeyer, J. R. Carbajal Sur.
T.D. 5,950 ft.

Washington County

W. D. Twichell et al No. 1 W. H. Hoxie, S. Clampit Sur.
Derrick.

Wharton County

Cockburn Oil Corp. No. 1 Conner, sec. 73, E.T.R.R. Sur.
Running 10¾-in. csg. 1,000 ft.

Pure Oil Co. No. 1 Paige, James Pirie Sur.
T.D. 7,676 ft.; R.U. to D.D.

Texas Co. No. 1 Joseph Marek, I.&G.N. Sur. No. 76.
Drlg. shale and lime at 3,773 ft.

SOUTH LOUISIANA

Calcasieu Parish

Lahay & Lambert et al No. 1 Landry, sec. 23-11s-10w.
Spudded 28 ft. and S.D.

A. G. Oliphant No. 1 Calcasieu National Bank, sec. 23-10s-12w.
Drlg. shale 3,330 ft.

Union Sulphur Co. No. 2 Prairie Farm Land & Canal Co., sec. 2-11s-9w.
Drlg. shale and lime at 8,910 ft.

Wheeler Oil Corp. No. 1 School Lot, sec. 16-9s-7w.
S.D. 7,210 ft.

Cameron Parish

Magnolia Pet. Corp. No. 1 Miami Corp., sec. 32-12s-8w.
T.D. 7,000 ft.; changing bits.

Concordia Parish

Zeal Oil Co. No. 1 E. J. Young, sec. 28-6n-8e.
S.D. 510 ft.

Evangeline Parish

Basile Oil Co. No. 1 Haas-Hirsch, sec. 14-6s-2w (work over).
T.D. 8,438 ft.; fishing for stuck drill stem.

J. E. Ladue No. 4 Vidrien, Sec. 34-3-2.
S.D. 1,635 ft.

Sparks-Mitchell and Jacobson's No. 1 Vidrine, sec. 47-4s-2e.
S.D. 1,636 ft.

East Feliciana Parish

Thompson Creek Oil Co. No. 1 Fannie Noland, sec. 70.
S.D. 1,589 ft.

West Feliciana Parish

Southern Minerals Corp. No. 1 Mary B. Wood, sec. 54-1s-4w.
T.D. 1,138 ft.; fishing.

C. L. Thompson No. 1 Percy, sec. 89-1s-4w.
Rig up.

Iberia Parish

Canal Oil Co. No. 1 Bolivar, sec. 2, in sec. 56-12s-7e.
Drlg. shale 3,821 ft.

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e.
T.D. 8,469 ft.; P.B. to 8,464 ft.; T.D. 8,475 ft.; oil sand; prepare to test.

Jefferson Lake Oil Co. No. 322 State Lake Pleigneur.
T.D. 3,434 ft.; P.B. and drlg. at 3,170 ft.

Kitos Oil Co. No. 2-A Sealey, sec. 56-12s-7e.
Rig up.

Texas Co. No 1 State Fausse Point.
P.B. to 6,400 ft.; cmtd. whipstock at 5,772 ft.; milling at 5,775 ft.

Jefferson Davis Parish

J. K. Lewis No. 1 Lockmore, sec. 32-7-6.
T.D. 5,710 ft.; T.D. of sidetracked hole 5,510 ft.; T.D. 5,580 ft.; fishing.

Shell Pet. Corp. No. 1 Lacassan, sec. 20-11s-4w.
Coring shaley sand at 9,628 ft.

St. Bernard Parish

Emerald Pet. Corp.'s "Shell Beach Properties," sec. 31-13s-15e.
T.D. 7,385 ft., hole caved in while S.D. at 5,480 ft.; cemented 7-in. csg. at 5,480 ft.; T.D. of sidetracked hole 6,316 ft.; S.D.

Southern Sulphur Co. No. 1 Lake Borgne, sec. 13s-16e.
S.D. 1,723 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e.
T.D. 4,538 ft.; reaming to make drill stem test in sand 4,527-38 ft.

St. Martin Parish

Southern Oil (S. C. Yingling et al) No. 1 State, sec. 13-9s-8w.
Drlg. shale at 2,010 ft.

Texas Co. No. 8 St. Martins Land, sec. 17-8s-7e.
Drlg. sand and shale at 6,089 ft.

Plaquemines Parish

Southern Sulphur Co. No. 1 Manhattan Fruit Co., sec. 26-21s-30e.
S.D. 3,509 ft.

Vernon Parish

Llano Cooperative Oil Co. No. 3 Llano Del Rio, sec. 7-1n-9w.
Drlg. shale 2,950 ft.

Terrebonne Parish

Shell Pet. Corp. No. 1 Realty Operators, sec. 76, Sur. 103, 17s-17e.
Coring sandy shale at 9,827 ft.

E. C. TEXAS WILDCATS

Week Ending February 29

Camp Hill Area—Anderson County

Sun Oil Co. No. 2 Carl Rosson, W. T. Davis Sur.
S.D. 5,085 ft.

Cayuga Area

Roeser & Pendleton No. 1-B L. R. Billett.
467 ft. from S and E of M. Ellis Sur
T.D. 4,033 ft.; testing.

Long Lake Area—Anderson County

Tide Water & Seaboard O. Co. No. 1 M. J. Reagan in John Adams Sur.
S.D. 5,299 ft.; P.B. 5,269 ft.; S.D.

Freestone County

Haley & Young No. 1 Jack Epps, D. Bullock Sur., 600 ft. NE of Haley & Young No. 1 McKnight, 6½ miles SE of League.
S.D. 4,666 ft.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 6 miles NW of Denison.
Elev. 767 ft.; T.D. 4,668 ft.; P.B. to 3,500 ft.; top sand 4,432 ft.; bailing 4,474 ft.

Henderson County

Sparks et al No. 1 P. E. Perry, A. York Sur., 500 ft. W of H. B. Ashburn dry hole, 5 miles S of Brownsboro.
Derrick.

Lamar County

Bruce Bros. No. 1 Chas. Price, 300 ft. from S of most southerly SW cor. and 1,000 ft. from W line of Wm. Nelson Sur., 10 miles NE of Paris, 1 mile W of Trout.
S.D. 336 ft.

W. A. Childs et al No. 1 J. M. Johnson. Luke Roberts Sur., 1 mile W of Depot.
Elev. 467 ft.; drlg. 2,610 ft.

L. W. Dennis No. 1 W. C. Clark, G. H. Hall Sur., 2 miles NE of Reno.
Derrick.

L. W. Dennis, tr., No. 1 Mrs. E. Lawrence, T. B. Roundtree Sur., 2 miles NE of Blossom.
Derrick.

J. Forrester et al No. 1 J. E. Woodward, L. Highton Sur., but in J. W. Woodward Sur., 1 mile E of Mintel.
S.D. 148 ft.

North Texas Synd. No. 1 D. M. Haines. J. R. Craddock Sur., 2½ miles NW of Emerson.
S.D. 1,800 ft.

Limestone County

C. L. Lytle No. 1 J. L. Thompson, P. Varella Sur., in Mexia field.
Drlg. 3,329 ft.

McLennan County

T. Cunningham No. 1 M. G. McKee, M. Snell Sur., near Bruceville.
Derrick.

Riley & Barrow No. 1 Hortaman, V. C. Walters Sur., 500-ac. tract, 1½ miles S McGregor.
S.D. 475 ft.

Nacogdoches County

Rich et al No. 1 Stripling & Hazelwood, J. L. Ewing Sur., 15 miles S of Nacogdoches.
Rigged up.

Navarro County

H. Pryor No. 1 Allen Edens, Blk. 17, M. Shire Sur. No. 10., 1 mile NE of Augua.
S.D. 65 ft.

Thompson & Sitton No. 3 Pugh, Joseph Smith Sur., Powell field.
S.D. 1,116 ft.

Rains County

O. L. Greer No. 1 Ida Bullard, N. Brantely Sur., 2 miles SW of Emory.
S.D. 117 ft.

Red River County

Joe Dinger et al No. 2 Morris, John Guest Sur., approx. 175 ft. NW of No. 1 Morris, 1 mile S Detroit.
T.D. 825 ft.; S.D.

Joiner No. 1 D. Rust, C. C. Wilborn Sur., just S of Avery.
Derrick.

Midwest Pet. Co. et al No. 1 Hocker & Hughes, S of Box Elder.
Location.

Williams et al No. 1 L. and O. Roberts. James Bankston Sur., 2 miles NE of Annona.
S.D. 160 ft.

Rockwall County

W. H. Carlin No. 1 N. F. Lofland, ¾ mile W of Rockwall in Bowles Sur.
Derrick.

Rusk County

McCallum et al No. 1 E. C. Gary, John Piburn Sur., 5 miles S of Henderson.
Drlg. 1,900 ft.

I. W. Shipman et al No. 1 Citizens Natl. Bank, NE cor. of 125-ac. tract, J. J. V'Barbo Sur., 4 miles NE of Henderson.
S.D. 3,467 ft.

Smith County

Thompson & Colby No. 1 W. P. Walsh, 1,600 ft. from N and 330 ft. from W line of S. Barnett Sur., 6½ miles NE of Tyler.
Drlg. 480 ft.

Winona Oil Corp. No. 1 McClung, E. Newberry Sur., 1 mile E of Winona.
S.D. 1,165 ft.

Titus County

Howze, Thompson & Peveto No. 1 C. M. Carr, North M. V. Delgado Sur., 2,060 ft. from easterly E line and 1,888 ft. from northerly N line of Sur., 1½ miles E of Talco.
Cored 4,205-08 ft.; recovered 8-in. black saturated sand; S.D. 4,208 ft.

C. M. Joiner No. 1 Huernish heirs, Henry P. Banks Sur., 12 miles E of Talco.
Derrick.

Humble O. & R. Co. No. 1 M. B. Groves. 457 ft. from E and W lines and 1,300 ft. from N of 82.9-acre tract, Ben Jones Sur.
Location.

Lucky Strike Oil Co. No. 1 W. D. Clark, 330 ft. out of most northerly SE cor. of 54-ac. tract in I. P. Stein Sur., 3¼ miles SE of Talco.
Location.

Ned Morris et al No. 1 Talco Townsite, 1,289 ft. from W and 347 ft. from N of NE cor. of A. Rinehart Sur.
Location.

W. C. Windsor and Humble No. 1 King & Hughes, 2,400 ft. from E and 1,600 ft. from N line of O. James Sur., SW of Talco.
Drlg. 2,152 ft.

S. Rotondi No. 1 Lillianstern, 1,200 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N. but in W. H. Crawford Sur., 5 miles SE of Talco.
Elev. 301 ft.; derrick.

NORTH CENTRAL TEXAS WILDCATS

Week Ending February 29

Archer County

J. W. Akin No. 1 McCrory, 917 ft. S and 450 ft. E. NW cor. Lot 1, sec. 70, A.T. N.C.L. Sur.
Location.

L. T. Burns No. 1 L. F. Wilson "BB," 450 ft. S and 150 ft. W, NW cor. Lot 3, sec. 117, but in sec. 116, A.T.N.C.L. Sur.
Location.

L. T. Burns No. 1-A Archer County, J Llewellyn Sur. A-256.
S.D. 1,210 ft.

Consolidated Oil Co. et al No. 1 L. F. Wilson, sec. 76, Lot 2, A.T.N.C. Lands.
S.D. 1,710 ft.

Darsey and Continental No. 1 Jones, sec 1,840, T.E.&L. Sur.
Drlg. 1,480 ft.

Deep Oil Dev. Co. No. 11, Lease 4, L. F. Wilson, sec. 76, A.T.N.C. Lands.
Drlg. 2,611 ft.

F. M. Gates No. 1 Grant, 1,950 ft. E and 480 ft. S, NW cor. Grant land, B.S.&F. Sur.
Location.

Luther Hedrick et al No. 1 M. B. Kay, Blk. 3, Harris Subd.
Rigging up.

Harry Hines et al No. 1 Cullum & Jones, Blk. 8, sec. 18, A.T.N.C. Lands.
S.D. 600 ft.

C. A. Lininger et al No. 1 Wm. Coleman, Blk. 32, Coleman Subd.
S.D. 1,460 ft.

Perkins & Cullum No. 1 Brown, 1,190 ft. from S and 810 ft. from E lines of S 60 of E 120 acres of N½ of sec. 2, S.P.R.R. Sur. A-921.
Drlg. 801 ft.

Perkins & Cullum No. 1 L. F. Wilson, sec. 118, A.T.N.C. Lands.
S.D. 2,204 ft.

Baylor County

Consolidated Oil Co. No. 1 Portwood, 600 ft. N and 150 ft. W, SE cor. NE¼, T. E.&L. Sur.
Drlg. 3,138 ft.

Hardgrave & McCulloch No. 1 Louis Hrncirik, sec. 5, B.B.B.&C. Sur. A-70.
Shut down 300 ft.

T. F. Hunter No. 1 Fayette County School land, Fayette County School Land Sur.
S.D. 1,250 ft.

T. F. Hunter No. 1 J. Kulhanek, 150 ft. S and W, NE cor., T.E.&L. Sur., sec. 2,430.
Location.

Morris & Spoonts No. 1 D. K. Martin, sec. 212, T.&N.O. Sur., A-748.
Drlg. at 810 ft.

W. P. Morris et al No. 1 C. T. Porter, Edward Brown Sur.
Sand with show oil and gas 1,320-24 ft.; S.D. 1,333 ft.

Cooke County

Anderson & Kerr No. 1 F. A. Bruthmeyer, 909 ft. N and 491 ft. W, SE cor. 120-ac., H. Stroud Sur. A-930.
Drlg. at 340 ft.

Cain & Chandler No. 1 J. B. Burch, J. McWilliams Sur. A-658.
Material.

T. P. Frost No. 1 Rohmer, Blk. 16, George Grey Sur., A-516.
Sand with show oil 821-35 ft.; testing; est. 20 bbls.

Hardin Oil Co. No. 1 J. G. Bonner, J. Lindheimer Sur.
Drlg. at 1,485 ft.

J. F. Hart No. 1 Gwyn, University Sur A-619.
Drlg. at 1,755 ft.

H. E. Hoover et al No. 1 G. C. Cartwright, B. J. Thompson Sur. A-1,008.
Drlg. 550 ft.

W. F. Johnson No. 1 Pauline Gentzke, W. C. Brown Sur. A-103.
Drlg. 1,628 ft.; S.D.; missed pay.

Kingery Bros. No. 1 S. D. Meador, 2,200 ft. N and 150 ft. W, SE cor. Meador 317 acres in G. W. Long Sur. A-570.
Location.

Lanier et al No. 1 Thetford, S.P.R.R. Sur. A-987.
Cleaning out at 605 ft.

L. A. Long et al No. 1 Sarles, Hunt County School Lands, Sur. A-440.
Drlg. at 1,110 ft.

Mills & Carey No. 1 A. M. Bezner, J. B. Trenary Sur.
Drlg. at 560 ft.

N. Newburn No. 1 Dotson, Wm. Campbell Sur. A-238.
Drlg. at 1,250 ft.

Charles Newsom No. 1 T. Wiesman, Blk. 9, Thos. Scott Sur. A-900.
Drlg. at 301 ft.

Petroleum Producers No. 1 J. W. Mount, J. C. Meeks Sur., A-758.
Drlg. at 470 ft.

L. E. Rader No. 1 McCubbin, R. Wheelock Sur. A-1,684.
Spudded with spudder, and shut down for rotary.

Raye Oil Corp. No. 1 Reiter, G. M. Casey Sur. A-198.
Sand with show of oil 926-42 ft. and 944-45 ft.; T.D. 956 ft.; waiting for spudder.

W. F. Russell No. 1 Belle Payne, Marshall University Sur. A-620.
Spudded and shut down

J. M. Russell et al No. 1 B. B. Bawley, Blk. 24, John Barnett Sur.
Lowering 10-in. csg.; T.D. 560 ft.

Ruwaldt-Couch No. 1 Sarah Goff, 1,770 ft. W and 1,670 ft. S, NE cor. W 80 acres Goff land, S.P.R.R. Sur. A-982.
Derrick.

Sunray Oil Co. et al No. 1-A A. C. McCall, W. H. White Sur. A-1,134.
Drlg. 425 ft.

B. F. Thompson No. 1 F. Trubenback. P. Davidson Sur. A-337.
Spudded.

Woodbine Oil Co. No. 1 Potter & Potter, J. Gorham Sur.
T.D. 645 ft. in sand with show oil; cleaning out.

Denton County

Jack Caudle et al No. 1 B. D. Jones, 400

ft. from N and 200 ft. from W lines of most northerly NW cor. of farm, John Morton Sur.
Spudded.

Oil Finance Corp. No. 1 J. S. Gambill, T. Burress Sur.
T.D. 470 ft.; cleaning out.

C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,233.
R.U. and S.D.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur.
T.D. 1,515 ft.; S.D. for csg.

Jack County

Bryson Oil & Gas Co. No. 1 G. E. Evett. George Hardesty Sur. A-294.
Drlg. at 310 ft.

J. W. Cole et al No. 1 Mrs. D. C. Clayton, 1,650 ft. from S and 330 ft. from E lines of farm, Lewis Knight Sur. A-324.
Location.

Engineers Oil Prop. No. 1 H. F. Manley, 330 ft. from N and E lines of sec. 2,739, T.E.&L. Sur.
Moving in material.

R. M. Gillespie No. 1 B. F. Rankin, 330 ft. from S and 581 ft. from W lines of farm, Jacob Ash Sur. A-8.
Spudded and S.D.

Jackson et al No. 1 Bloodworth, J. F. Chesire Sur. A-149.
Material on ground.

E. C. Lawson et al No. 1 Patterson, Lewis Knight Sur. A-324.
Drlg. at 1,900 ft.

Nelson Oil Synd. No. 1 J. P. McCoy, A. S. Ensworth Sur.
S.D. 2,120 ft.

Montague County

A. Gutowsky et al No. 1 J. E. Lemmon, Blk. 13, C. K. Hamm Sur. A-322.
S.D. 586 ft.

J. F. Hart No. 1 W. M. Talley, J. Perrin Sur.
Drlg. at 1,520 ft.

Jim Seeds et al No. 1 Coombs, sec. 54, M.E.P.&P. Sur.
S.D. 1,030 ft.

J. M. Holmes No. 1 H. D. Field, 150 ft. E and 450 ft. N, SW cor. 155 acres, sec. 55, M.E.P.&P. Sur. A-528.
Drlg. 810 ft.

F. L. Vaich No. 1 Adams, R. H. Grimes Sur. A-288.
Drlg. at 1,995 ft.

M. C. Wells No. 1 Collier, M. Hunt Sur., sec. 14.
Spudded and S.D.

Westqumo Co. No. 1 J. M. Willett, Blk. 3, Harriet Brown Sur.
S.D. 1,110 ft.; sand with H.F.W. 1,102-10 ft.

Throckmorton County

Ben Ashe et al No. 1 W. B. Parrott, sec. 961, T.E.&L. Sur.
Rigging up.

J. W. Cole No. 1 Chandler, sec. 2,142, T. E.&L. Sur.
Rigging up.

Alex M. Snyder No. 1 W. J. Timmons, 500 ft. from S and 1,233 ft. from W lines of sec. 793, T.E.&L. Sur.
Material.

Wichita County

F. P. Cullum No. 1 T. L. Burnett, 1,470 ft. N and 1,170 ft. W, SE cor. sec. 4, H.T.&B. Sur. A-752.
Drlg. 495 ft.

W. B. Omohundro No. 1 S. P. Gibson, Blk. 201, Waggoner Colony Lands.
Oil sand at 1,830-40 ft.; set csg.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller et al, sec. 108, Blk. 14, H.&T.C. Sur.
Drlg. at 1,550 ft.

W. B. Hamilton No. 1 W. T. Waggoner estate, Blk. 30, J. Poitevent Sur. A-1,612.
Drlg. at 1,440 ft.

Ed S. Smith et al No. 1 W. T. Waggoner, 1,170 ft. S and 150 ft. W, NE cor. sec. 50, Blk. 14, H.&T.C. Sur.
Location.

Smith No. 1 S. A. Dill et al, sec. 32, Blk. 14, H.&T.C. Sur.
Drlg. at 2,010 ft.

Wheeler et al No. 1 W. T. Waggoner, 150 ft. N and E, SW cor. 80 acres, sec. 99, H.&T.C. Sur., Blk. 14.
Rigging up.

Wise County

W. B. Hamilton No. 1 S. L. McNay, N. Ledbetter Sur.
Drlg. at 1,610 ft.

Jarvis & Nix et al No. 1 Williams, Blk. 4, F.C.S.L. Sur.
S.D. 975 ft.

Young County

Barton & Scott No. 1 J. L. Rhodes, B. F. Kutch Sur. A-1,333.
Derrick.

Carl Pet. Co. No. 1 Goss, sec. 1,592, T.T. &L. Sur.
S.D. 1,960 ft.

Christie Bros. No. 1 Deats et al, J. C. Holly Sur. A-1,462.
Drlg. 395 ft.

Christie Bros. No. 1 Primitive Baptist Church, S. L. Hill Sur. A-126.
Drlg. 2,599 ft.

Curtis & Bracken No. 1 Allar Co., H. Garmes Sur. A-104.
Drlg. 1,966 ft.

B. C. Gilmore et al No. 1 A. Williams, W. C. Adams Sur. A-1,344.
Oil sand 578-82 ft. and broken oil sand 594-619 ft.; T.D. 619 ft.; shut down.

Harry Hines et al No. 1 R. T. Kerr, sec. 172, T.E.&L. Sur.
Drlg. 800 ft.

C. E. Knox No. 1 Washam, Blk. 8, sec. 1,412, T.E.&L. Sur.
Derrick.

Dobbs Oil Co. and McLester No. 1 Laquey, J. Busse Sur. A-1,570.
T.D. 1,427 ft.; S.D.

Murry R. Hart No. 1 McCluskey, T. J. Mullinax Sur. A-1004.
R.U. and S.D.

Nash & Windfohr No. 1 W. S. Simms, D. Franklin Sur. A-1,425.
Rigged up.

C. D. Neff et al No. 1 W. A. Dennis, C. F. Bass Sur.
Show gas in sand 1,990-95 ft.; wtr. 1,995-2,000 ft.; T.D. 2,100 ft.; fishing tools.

Pitzer & West No. 1 McCluskey, sec. 1,104, T.E.&L. Sur. A-327.
Drlg. at 1,600 ft.

Pitzer & West No. 1 J. N. Booser, sec. 1,104, T.E.&L. Sur., 150 ft. south of river.
T.D. 4,485 ft.; P.B. to 4,025 ft.; shot with 80 qts. from 3,990-4,025 ft.; and 160 qts. from 3,990-4,025 ft.; putting on pump.

Pitzer & West No. 1 S. L. Thornton, sec. 1,015, T.E.&L. Sur. A-524.
Rigging up cable tools.

Rathke Oil Co. No. 2 J. T. Rogers, 330 ft. from S and 1,100 ft. from W lines of S. H. Graham Sur. A-124.
Rigging up.

Ray & Staniforth No. 1 Wooten, sec. 1,976, T.E.&L. Sur.
S.D. at 1,050 ft.

Roberts Oil Corp. No. 1 Brogden, H. Garmes Sur. A-104.
S.D. at 1,730 ft.

Tebay & Leberman No. 1 J. G. Hawkins, sec. 1,917, T.E.&L. Sur.
Location.

S. W. TEXAS WILDCATS

Week Ending February 29

Atascosa County

R. C. Lee No. 1 Damsch, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. No. 1,222.
S.D. for repairs.

Cliff Oil Co. (McIntyre) No. 1 Joint Stock Land Bank Co., 1,104 ft. SW line, 2,700 ft. SE line, Woodlief Sur., 246.
Drlg. 2,207 ft.

L. L. Motes et al No. 1 Atascosa, 1,300 ft. W line, 200 ft. N line, Farm tract No. 79, McNeill Sur.
S.D. 895 ft.

Bee County

Herbert Aid No. 1 Booth, 150 ft. N line, 330 ft. W line, tract, Blanchard Sur.
Comp. 19 bbls. per hour on ¼-in. choke; T.D. 3,927 ft.

Geo. E. Church No. 1 Ray, 360 ft. E line, 330 ft. N line, cen. 40-ac. tr., Burk Sur.
Coring 2,816 ft.

H. A. Pressey No. 1 Hicks, 1,450 ft. of S line, 150 ft. of W line, lease, J. Uranga Grant.
Drlg. 120 ft.

Bexar County

J. Dupree No. 1 Coffey, Rodrigues Sur.
T.D. 1,123 ft.; bailing.

Joe Dupree No. 1 Russell, 1,500 ft. SE No. 1 Coffey.
T.D. 1,091 ft.; comp.; no gauge; R.U. to pump.

H. A. Pagenkopf No. 1 Ritteman, 2,500 ft. E line, 500 ft. N line, C. Texada Sur.
Drlg. 1,920 ft.

H. V. Schumaker No. 1 Gillette, 465 ft. White road, 235 ft. N line, 49-ac. tract, de Alamix Sur. No. 20.
Drlg. 113 ft.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lease, B. Garcia tract, Salinas Sur.
Coring 3,949 ft.

Dick Young No. 1 Singer, 50 ft. E line, 660 ft. N line, NW¼ SE¼, Sur. 312.
Testing 919 ft.

Caldwell County

Marts & Beaven No. 1 Jolley, 150 ft. N and E lines tract, Edward Pettus Sur.
Dry and abd. 1,565 ft.

Dewitt County

Hill Bros. & Koontz No. 1 Herman Riddle, 450 ft. S line, 330 ft. W line, 535-ac. tract, Santos Sur.
Drlg. 4,035 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. from S and W lines of tract, Fitzgerald grant.
Drlg. 550 ft.

Duval County

J. H. Chandler No. 2 Rita Pence, Share 4, Mesquite grant.
S.D. 2,524 ft.

Continental Oil Co. No. 8-A Driscoll, sec. 52, Santa Rosalie grant.
Comp.; no gauge; sand 2,438-65 ft.

Chas. Daubert No. 1 Kreis, 2,400 ft. N line, 2,700 ft. E line, Sur. 518.
Drlg. 2,520 ft.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250.
Drlg. 4,250 ft.

Porter & Blanchard No. 1 Milano Land & Garden Co., 330 ft. N and W lines, Sur. 85.
T.D. 3,011 ft.; dry and abd.

Rogers & Rogers No. 1 Cuellar, 330 ft. NE line, 990 ft. NW line, sec. 1117.
T.D. 2,571 ft.; comp. 20 bbls. per hour.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1 Glasscock, 3,945 ft. E line, 9,985 ft. S line, Book ranch, Concepcion grant.
Drlg. 4,050 ft.

Edwards County

Paul Teas No. 1 Stewart, C SE¼ sec. 2, G.C.&S.F. Sur.
Drlg. 2,193 ft.

Frio County

Amerada Pet. Corp. No. 1 Correy & MacWilliams, 660 ft. N line, 125 ft. E line, Blk. 13, Jose Arocha Sur. No. 298.
T.D. 5,569 ft.; comp. flowing 150 bbls. in 9 hrs.

Goliad County

Thompson Drlg. Co. No. 1 J. E. Pettus, 2,750 ft. S line, 750 ft. creek, Barbo Sur. No. 51.
Drlg. 2,902 ft.

Guadalupe County

W. J. Walton No. 1 Zobowski, 227-ac. tract, J. D. Clements Sur.
Set csg. 2,160 ft.; W.O.C.

Hidalgo County

Gulf States Oil Co. No. 1 Delta Orchards, 580 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Mestanas grant.
Coring shale 6,112 ft.

Maddox & Tatum No. 1 John Shary, Tr. 48-2, Porc. 53, jurisdiction of Reynosa.
S.D. for repairs 5,132 ft.

Quintana Petroleum Co. No. 1 John C. Engleman, Lot 10, Blk. 94, Las Mestanas Grant.
Coring 3,797 ft.

Dayle Smith No. 1 Fairbanks & Young, Blk. 44, Por. 46, jurisdiction of Reynosa.
S.D. 1,900 ft.

Jim Hogg County

S. L. Miller Oil Co. No. 1 Yeager, 150 ft. E line, 477 ft. S line, Blk. 6, Sur. 20.
T.D. 4,130 ft.; dry and abd.

Jim Wells County

O. W. Killam No. 1 Reynolds, C S half Sur. 28.
Rigging up.

Kerr County

Auld and Evans' No. 1 Heffner, 660 ft. N line, 330 ft. E line, Sec. 13, B.S.&F. Sur.
S.D. 1,451 ft.

Eastland Oil Co. No. 7 Love, 660 ft. N Evans & Gant No. 1 Love, Martinez Sur. No. 1,594.
Underreaming 1,360 ft.

Kleberg County

John Bartlett's No. 1 Anton Deitz, SE¼ SE¼ Sec. 48, K.T.&I. Subd.
T.D. 3,010 ft.; dry and abd.

Live Oak County

Dirks Bros. No. 1 Dougherty, 330 ft. NW line, 960 ft. NE line, 320-ac. tract Beagle Sur.
Drlg. 1,500 ft.

R. H. Feltner No. 1 J. T. Carter, 1,847 ft. NW line, 350 ft. NE line, 120-ac. tract, sec. 319.
Drlg. sandy shale 2,487 ft.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Corbett, sec. 2, R. H. Corbett Sur.
T.D. 4,017 ft.; dry and abd.

L. W. Steiren No. 1 Smith, T. B. Reese Sur.
Drlg. 2,923 ft.

Maverick County

I. N. Boicourt No. 1 Bandera School Land, 3,960 ft. E line, 2,550 ft. S line, lease, Sur. 231.
Drlg. 150 ft.

McMullen County

Darby Pet. Corp. No. 3-B Hagist, 330 ft. S line, 990 ft. W line, Sur. 187.
Location.

P. Dayvault No. 1 Matula, 150 ft. S line, 2,462 ft. E line tr., Jas. Garner Sur.
No report.

Magnolia Pet. Co. No. 1 Kincaid, 2,310 ft. W line, 330 ft. N line, Sur. 86.
Drlg. 1,600 ft.

Earl Rowe No. 1 Lee, 330 ft. S and W lines, NE¼ SE¼ sec. 34.
Rigging up.

Whisenant & Trenchard No. 1 Roos Bros., C SE¼ SE, Sur. 93.
T.D. 523 ft.; drlg. water well.

Medina County

W. C. Campbell's No. 1 McMenemy, 160 ft. S and W lines, Sur. 33.
T.D. 2,592 ft.; fishing.

Gates & Hill No. 5 Odem, H. Castro Sur. No. 174.
T.D. 176 ft.; S.D.

Nueces County

Allen & McCormick No. 1 McBurnett, 660 ft. N line, 330 ft. E line, Lot 2, Robert Shallert ranch.
Spudded in.

Coker & Lee Bros. No. 1 Geistman, 330 ft. N line, 660 ft. W line, 60-ac. tract, J. R. Ward Sur. No. 316.
Derrick.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1 Cooke, 990 ft. N line, 330 ft. W line, sec. 14.
Rigged up; drlg. water well.

San Patricio County

Benedum & Trees Oil Co. No. 1 Jones, 1,650 ft. E line, 990 ft. S line, NW¼ sec. 45.
Moving in material.

Benedum & Trees Oil Co. No. 2 Welder, sec. 19.
Set surface csg. 1,488 ft.; W.O.C.

H. Reid et al No. 1 Svedienak, 330 ft. N and W lines, Lot 1, sec. 5.
Drlg. 6,020 ft.

Stanolind Oil & Gas Co. No. 1 Floerke, 150 ft. NE line, 1,320 ft. SE line, Lot 1.
Drlg. shale 5,140 ft.

Texon Drlg. Co. No. 1 Rambo, 330 ft. W line, 466 ft. N line, Lot 6, sec. 35.
Rigging up.

Starr County

J. H. Clopton No. 1 Kelsey Bass, center Sec. 257.
Drlg. 2,667 ft.

J. H. Clopton No. 2 Kelsey Bass, sec. 277.
Drlg. 183 ft.

Coreta Oil Co. No. 1 Haden et al, Share 17, Por. 80, Jurisdiction of Camargo.
T.D. 1,600 ft.; S.D.

A. J. Weyel, tr. No. 1 Wood, 2,500 ft. N Rio Grande River, 2,500 ft. E line, Por. 94.
T.D. 2,140 ft.; abd.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft. NE line, 1,170 ft. SE line, Blk. 18, Sur. 1,462.
No report.

Southwest Drlg. Co. No. 1 R. Lopez, 330 ft. S and W lines, NE¼, Sur. 139.
Coring 1,500 ft.

Willacy County

Kingwood Oil Co. No. 1 Santa Rosa, 160 ft. E line, 637 ft. S line, 40-ac. tract, sec. 30, Blk. 16, Share 44.
T.D. 5,965 ft.; dry and abd.

Zavalla County

Buttram Pet. Co. No. 1 White Cotton, 1,240 ft. W line, 330 ft. N line, A.B.&M. Sur. No. 1.
Rigging up.

Leona Oil Co. and Witherspoon Oil Co. No. 1 George West, 3,665 ft. N line, 330 ft. E line, C. Bustillo Sur. No. 1.
Set surface csg.; W.O.C.

Zapata County

Murt Cullinan No. 1 Gutierrez, Blk. 4, Share 2, Fansler Partition, Comitas grant.
T.D. 2,014 ft.; dry and abd.

Murt Cullinan No. 1-A Gutierrez, Blk. 3, Share 2, Comitas grant.
Rigging up.

J. J. O'Hern's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk. 5, Share B, Por. 27.
No report.

S. W. TEXAS PROVEN

Week Ending February 29

Dirks—Bee County

Illinois Pet. Co. No. 9-B Hall, 2,313 ft. SW line, 1,484 ft. SE line tract, Butler Sur.
Set surface csg.; W.O.C.

Illinois Pet. Co. No. 10-B Hall, 600 ft. SW and NW lines, lease, Butler Sur.
Sand 3,888-95 ft.; comp. 11 bbls. per hour on ¼-in. choke.

Sun Oil Co. No. 5 Page, 330 ft. NE cor. tract, Young Sur., Abst. No. 588.
Comp.; no gauge; T.D. 3,625 ft.; T.P. 400 lbs.

Plummer—Bee County

C. Echols No. 1 Plummer, 391 ft. SW line, 150 ft. SE line, F. J. Chesman Sur.
Spudded in.

Eckert—Bexar County

Alamo Nat. Gas Co. No. 1 Minnie Coreth, Sur. 49.
T.D. chalk 1,091 ft.; flowing oil in heads.

Von Ormy—Bexar County

N. Anderson No. 1 Henry Lest, Blk. 4,014, F. Rollin Sur. No. 48.
Set surface csg. 630 ft.; W.O.C.

Dale—Caldwell County

Ogden & Reed No. 2 Vickery, 550 ft. NE line, S. Damon Sur.
T.D. 1,923 ft.; Serp.; show oil.

Salt Flat—Caldwell County

Witherspoon Oil Co. No. 1 Tiller, 175 ft. N and W lines tract, G. Hinds Sur.
Drlg. 2,311 ft.

Eagle Hill—Duval County

Marso Oil Co. No. 2 Hagist, 480 ft. E of No. 1, Survey 6.
Coring to set csg. deeper 2,122 ft.

W. C. McBride No. 1 Hagist, 330 ft. S and W lines, Blk. 13, sec. 267.
T.D. 2,120 ft.; swabbed water; drlg. deeper.

Government Wells Pool—Duval County

Tom Graham No. 3 Webb, 330 ft. E line, 1,320 ft. N line, 68½-ac. tract, Sur. 41.
Testing 2,266 ft.

Magnolia Pet. Co. No. 5 Moody, 330 ft. E line, 1,650 ft. S line, E½ NE¼ Sur. 60.
T.D. 2,546 ft.; comp.; no gauge; on pump.

Ralph Ogden No. 8 B.C.C., 330 ft. S and W lines, N½ S½ Sur. 135.
T.D. 2,314 ft.; testing.

Hoffman—Duval County

Duval Oil Corp. No. 1 D. Ruiz, 330 ft. N line, 990 ft. E line, Sur. 119.
Coring 2,850 ft.

Gorham & Yoakam and Gem Oil Co. No. 1 Bishop Duval Land Co., 330 ft. S and W lines, sec. 76.
Rigging up.

Rogers & Rogers No. 2 Sutherland, 1,070 ft. S and E lines, E½ Sur. 120.
Derrick.

Rogers & Rogers Drlg. Co. No. 2 Hoff-

man, 330 ft. E line, 1,698.5 ft. S line, 640-ac. tract. Sur. 118.
D.S.T. 2,835-53 ft.; 140 ft. oily mud and free oil; coring 2,855 ft.

Standard Oil Co. of Kansas, 330 ft. SW of N line, 80-ac. tract, Sur. 118.
Rigging up.

Loma Novia—Duval County

Bridwell Oil Co. No. 6 B.C.C., Sur. 76.
Drlg. 2,210 ft.

Bridwell Oil Co. No. 11 B.C.C., 990 ft. N and W lines, SW¼ Sur. 76.
Sand 2,593-2,615 ft.; comp. 240 bbls. per day on ½-in. choke; T.D. 2,729 ft.

Bridwell Oil Co. No. 12 B.C.C., SW¼ Sur. 76.
Set csg. 2,609 ft.; W.O.C.

Bridwell Oil Co. No. 12 B.C.C., 1,650 ft. W line, 990 ft. N line, SW¼ Sur. 76.
Derrick.

Bridwell Oil Co. No. 15 B.C.C., Sur. 76.
No report.

Bridwell Oil Co. No. 1-C Hubbard, 330 ft. S and E lines, NE¼ SW¼, Sur. 75.
Sand 2,553-63 ft.; W.O.C.

Rodney DeLange No. 8 Moody, E½ NE¼ Sur. 76.
Comp. 15 bbls. per hour on ½-in. choke; T.D. 2,734 ft.

Duval Oil Corp. No. 12 B.C.C., 1,650 ft. N line, 330 ft. E line, Sur. 59.
Spudded in.

Duval Oil Corp. No. 13-B Moody, S½ SE¼ Sur. 60.
Drlg. 2,320 ft.

Duval Oil Corp. No. 12-B Moody, 990 ft. E line, 330 ft. S line, Sur. 60.
Comp. 25 bbls. per hour on ½-inch choke; T.D. 2,558 ft.

Frank Gravis No. 1 Tulin, 330 ft. S and E lines, Blk. 1, Sur. 78.
Set csg. 2,603 ft.; W.O.C.

Frank Gravis No. 2 Tulin, Blk. 1, Sur. 78.
Rigging up.

Hamil, Smith & Ogden No. 13 Hubbard, 330 ft. N and E lines, NE¼ SE¼ sec. 77.
Derrick.

Hamil, Smith & Ogden No. 16 Hubbard, 330 ft. SE cor., SW¼ SW¼ Sur. 77.
T.D. 2,633 ft.; recmtg.

Hamil, Smith & Ogden No. 20 Hubbard, 330 ft. NW cor., NE¼ SW¼ Sur. 77.
Derrick.

Highland Oil Co. No. 18 Hubbard, 330 ft. W line, 990 ft. S line, Sur. 72.
Drlg. 2,311 ft.

Highland Oil Co. No. 19 Hubbard, 990 ft. N and W lines, S½ Sur. 72.
Comp. 10 bbls. per hour; T.D. 2,720 ft.

Highland Oil Co. No. 20 Hubbard, 990 ft. W line, 1,650 ft. N line, Sur. 72.
Drlg. 2,107 ft.

Highland Oil Co. No. 6-D Hahl, sec. 63.
Sand 2,576-87 ft.; W.O.C.

Humble O. & R. Co. No. 7-A Hubbard, 990 ft. W line, 1,650 ft. S line, sec. 84.
Setting screen 2,825 ft.

Humble O. & R. Co. No. 3-B Hubbard, 330 ft. N line, 1,650 ft. W line, W 320-ac. tract, Sur. 83.
Sand 2,779-92 ft.; comp. 38 bbls. per hour on ½-in. choke.

Humble O. & R. Co. No. 4-B Hubbard, 330 ft. N and E lines, W½ Sur. 83.
Drlg. 1,711 ft.

Humble O. & R. Co. No. 33-B Hubbard, 330 ft. N and E lines, Sur. 72.
Set surface csg. 47 ft.; W.O.C.

Humble O. & R. Co. No. 10 Ruiz, 2,413.5 ft. S line, 990 ft. W line, Sur. 553.
Derrick.

Humble O. & R. Co. No. 6 Vela, 330 ft. S line, 2,020 ft. E line, N½, Sur. 42.
Testing 2,650 ft.

Magnolia Pet. Co. No. 3 Hahl, 1,650 ft. N line, 330 ft. W line, Sur. 67.
Rigging up.

Magnolia Pet. Co. No. 14 Hahl, 1,587 ft. W line, 330 ft. S line, Sur. 67.
Comp. 23 bbls. per hour on ½-in. choke; T.D. 2,666 ft.

Magnolia Pet. Co. No. 15 Hahl, 2,217 ft. W line, 330 ft. S line, Sur. 67.
Drlg. 1,107 ft.

Magnolia Pet. Co. No. 16 Hahl, 2,847 ft. W line, 330 ft. S line, Sur. 67.
Drlg. 1,932 ft.

Montour Prod. Co. No. 5 Hubbard, 1,650 ft. W line, 330 ft. S line, S½ NE¼ Sur. 76.
Sand 2,621-25 ft.; comp. 300 bbls. per day; T.D. 2,642 ft.

Montour Prod. Co. No. 6 Hubbard, 330 ft. S and E lines, NE¼ Sur. 75.
Drlg. 1,873 ft.

Pitkin & Goldston No. 1 B.C.C., 330 ft. N and E lines, tract, Sur. 57.
T.D. 2,852 ft.; dry and abd.

Hiram Reed and J. T. Stover No. 1 C. W. Duke, 330 ft. N and E lines, SE¼ SE¼ Sur. 64.
Rigging up.

Reynosa Oil Co. No. 3-A McLean, 330 ft. E line, 990 ft. S line, Sur. 62.
Drlg. 2,543 ft.

Rosan Oil Co. No. 8 Hubbard, 662 ft. E of No. 7, 330 ft. S line lease, Sur. 84.
Comp. 39 bbls. per hour on ½-in. choke; sand 2,794-2,803 ft.

Rosan Oil Co. No. 9 Hubbard, 990 ft. S and W lines, Sur. 84.
Spudded in.

Russ Pet. Co. No. 1 Hahl, 330 ft. S & E lines, SW¼, Sur. 63.
Sand 2,576-84 ft.; T.D. 2,591 ft.; testing.

Shell Pet. Corp. No. 4 Hahl, 990 ft. E line, 330 ft. N line lease, Sur. 74.
Rigging up.

Shell Pet. Corp. No. 1 Mendoza, 330 ft. S and W lines, Sur. 68.
Rigging up.

Texas Co. No. 11 B.C.C., 330 ft. S and E lines, N½ sec. 59.
Sand 2,641-55 ft.; testing.

Texas Co. No. 17 Wendt, 330 ft. S and E lines, Sur. 68.
T.D. 2,793 ft.; drlg. plugs.

Texas Co. No. 22 Wendt, 990 ft. E line, 1,650 ft. S line, Sur. 68.
Comp. 18 bbls. per hour on ½-in. choke; T.D. 2,758 ft.

Texas Co. No. 23 Wendt, Sur. 68.
Drlg. 1,315 ft.

Texas Co. No. 33 Vela, S½, Sur. 42.
T.D. 2,642 ft.; comp. 15 bbls. per hour.

Texas Co. No. 24 Vela, Sur. 42.
Setting csg. on sand; W.O.C.

Texas Co. No. 32 Vela, Sur. 42.
Rigging up.

Texas Co. No. 33 Vela, 2,310 ft. E line, 330 ft. N line, S½ Sur. 42.
T.D. 2,686 ft.; comp. 5 bbls. per hour on ½-in. choke.

Valley Osage Oil Co. No. 2 Moody, 990 ft. S and E lines, 20-ac. tract, Sur. 60.
Swabbing 2,550 ft.

Valley Osage Oil Co. No. 1 Hubbard, W½, Sur. 75.
Sand 2,566-67 ft.; set csg.; W.O.C.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 9 D.C.R.C., 330 ft. W line, 990 ft. S line, SE¼ sec. 100.
Sand 1,958-72 ft.; comp. flowing in heads; T.D. 1,972 ft.

Texas Co. No. 13 D.C.R.C., 330 ft. S and E lines, SW¼ Sur. 100.
T.D. 1,944 ft.; running csg.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 13-A Welder, 330 ft. E line, 330 ft. N line, Sur. 385.
T.D. 2,511 ft.; testing.

Atlantic Oil Prod. Co. No. 6-B Welder, 330 ft. N and E lines, W½ SE¼, Sur. 385.
T.D. 2,505 ft.; comp. flowing 50 bbls. per day.

Atlantic Oil Prod. Co. No. 4-C Welder, 1,-50 ft. W line, 330 ft. N line, Sur. 591.
T.D. 2,211 ft.; set csg. 2,203 ft.; W.O.C.

Atlantic Oil Prod. Co. No. 5-C Welder, 330 ft. N and W lines, Sur. 591.
S.D. for water 1,200 ft.

Buchanan & Blanco Oil Co. No. 10 Welder, 330 ft. W line, 415 ft. S line, E½ SW¼ Sur. 385.
Set csg. 2,487 ft.; drlg. plugs.

Diamond Half Oil Co. No. 2 Serna, 330 ft. N line, 1,516 ft. W line, N½ NE¼ Sur. 384.
Drlg. 833 ft.

Humble O. & R. Co. No. 1 Wright, 330 ft. S and E lines, SE¼, Sur. 118.
Drlg. 2,733 ft.

Humble O. & R. Co. No. 4-B Serna, 990 ft. E line, 330 ft. S line, S½, SE¼, Sur. 384.
Comp. 35 bbls. per hour; sand 2,488-2,509 ft.

Humble O. & R. Co. No. 5-B Serna, 990 ft. S line, 330 ft. E line, Sur. 384.
Derrick.

Humble O. & R. Co. No. 6-A Serna, SW¼ Sur. 384.
Sand 2,447-55 ft.; to set csg.

Humble O. & R. Co. No. 7-A Serna, 330 ft. S and W lines, SW¼, Sur. 384.
Derrick.

Pan American Oil Co. No. 3-A Welder, Sur. 381.
T.D. 2,445 ft.; swabbing.

Reliance Oil Co. & Kleiner No. 1 Welder, 990 ft. E line, 330 ft. S line, S½, NE¼ Sur. 381.
Sand 2,395-2,406 ft.; comp. 26 bbls. per hour on ½-in. choke; T.D. 2,422 ft.

Reliance Oil Co. & Kleiner No. 2 Welder, 1,665 ft. E line, 330 ft. S line, S½, Sur. 383.
Rigging up.

Santa Clara Oil Co. (Atkins & O'Neil) No. 21 Welder, 160-ac. tract, Sur. 382.
Comp.; no gauge; top sand 2,461 ft.

Santa Clara Oil Co. and H. H. Henderson No. 7-C Welder, 2,310 ft. E line, 1,-650 ft. S line, Sur. 381.
Drlg. 1,794 ft.

Santa Clara Oil Co. No. 8 Welder, 660 ft. S No. 4, survey, W½ SW¼, Sur. 385.
Comp. 24.84 bbls. per hour; sand 2,479-85 ft.

Santa Clara Oil Co. No. 12 Welder, 330 ft. W line, 990 ft. S line, NW¼, Sur. 385.
Moving in material.

Santa Clara Oil Co. No. 25 Welder, NE 160-ac. tract, Sur. 383.
Moving in material.

Santa Clara Oil Co. & H. H. Henderson No. 9-C Welder, 2,310 ft. E line, 1,650 ft. S line, Sur. 381.
Moving in material.

Shell Pet. Corp. No. 4 Welder, 330 ft. S and E lines, W½ SW¼ Sur. 385.
Coring 2,465 ft.

Westheimer & Daube No. 4 Campos, 330 ft. W line, 990 ft. S line, Sur. 224.
Sand 2,202-12 ft.; W.O.C.

Westheimer & Daube No. 5 Z. Campos, 1,-650 ft. S line, 330 ft. W line, Sur. 224.
Moving in material.

Pearsall—Frio County

Amerada Pet. Corp. Correy & McWilliams, 660 ft. N line, 721 ft. W line, Tract 17, Manuel Tijerina Sur. No. 300.
Drlg. 1,512 ft.

Amerada Pet. Corp. Correy & McWilliams, 1,980 ft. S line, 746 ft. W line, Tract 3, Jose Arocha Sur. No. 299.
Set surface csg.; W.O.C.

Amerada Pet. Corp. Correy & McWilliams, 660 ft. S line, 728 ft. E line, Tract 6, Jose Arocha Sur. No. 298.
Rigging up.

Amerada Pet. Co. No. 5 Halff & Oppenheimer, 930 ft. N No. 1 Michail, Simon Glenn Sur. No. 235.
Drlg. chalk 5,371 ft.; show oil.

Amerada Pet. Co. No. 6 Halff & Oppenheimer, S. A. Ditch Co. Sur. No. 1,103.
Set csg. 5,408 ft.; W.O.C.

T. Davis No. 1 Halff & Oppenheimer, 329-ac. tract, J. D. Clare Sur. 366½.
Sand 4,022-32 ft.; flowed oil and S.W.; Drlg. 4,400 ft.

Gillette—Goliad County

Jane Oil Co. No. 4 Mudd, 1,650 ft. SW line, 990 ft. NW line lease.
Drlg. 2,073 ft.

Magnolia Pet. Co. No. 1 Porter, 512 ft. NE line, 330 ft. SE line, 142-ac. tract, Myers Sur. No. 26.
Set surface csg.; W.O.C.

Clark—Guadalupe County

Ramona Oil Co. No. 1 Katie Lay, 150 ft. W line, Davis Sur., 150 ft. S line lease.
Moving in material.

H. H. Weinert No. 1 Lay, 330 ft. N and W lines lease, J. K. Davis Sur.
Moving in material.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1, Farm tract 2309, Blk. 59.
Set csg. 7,530 ft.; W.O.C.

Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines, Tract 2,120, Blk. 87.
Drlg. 5,937 ft.

Samfordyce—Hidalgo County

J. H. Anderson's No. 1 Guerra, 332 ft. N line, 285 ft. W line, Tract 254, Por. 39.
Sand 2,746-57 ft.; tubing plugged; flowing in heads.

Dean Bros. No. 1 Lula George, 150 ft. S line, 230 ft. W line, 10-ac. tract, Tract 13, Porc. 40.
Rigging up.

Ralph E. Fair No. 2-B Seabury, 230 ft. S and W lines, tract, Tract 256, Por. 38.
Set csg. 2,788 ft.; W.O.C.

Harrison-Davis-Bishop's No. 9 Guerra, 231 ft. N and W lines, 40-ac. tract, Tract 12 Por. 41.
Comp. 35 bbls. per day on 3/32-in. choke; sand 2,768-72 ft.

Hill & Hill No. 3 Guerra, Tract 254, Porc. 40.
Sand 2,758-63.5 ft.; washing in.

Ernest Powell No. 3 Lula George, Tract 13, Porc. 41.
Perforated 2,760-66 ft.; washing in.

Weekly Oil Co. No. 1 F. B. Guerra, 230 ft. E line, 150 ft. S line, 9-ac. tract, Tract 12, Por. 41.
Drlg. 763 ft.

Sandia—Jim Wells County

J. E. Walsh No. 1 Wade, 700 ft. N line, 330 ft. E line, Lot 3, Blk. C, Lopez de Jean grant.
T.D. 2,987 ft.; dry and abd.

San Diego—Jim Wells County

Houston Oil Co. No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11.
Drlg. 5,109 ft.

Lucas—Live Oak County

Houston Oil Co. No. 33 Cartwright, 1,173 ft. N of No. 21, R. R. Botallio grant.
Drlg. 4,412 ft.

Calliham—McMullen County

Chas. Hall No. 2 Claunch, 400 ft. SE No. 1, Holy Sur.
No report.

Luray Oil Co. No. 9 Glass, 160 ft. S Frio River, 520 ft. E line, Blk. 14, Holy Sur.
Spudded in.

Luray Oil Co. No. 10 Stitz, Blk. 46, Garner Sur.
Drlg. 307 ft.

I. W. Taylor No. 1 Lark, 150 ft. S, NW cor. Blk. 54, Scrugham Sur. 978.
Sand 969-77 ft.; comp. on pump 3 bbls. per hour.

Jacob—McMullen County

Loma Oil Co. No. 1-F Jacob, 330 ft. W No. 1-B Lark.
Sand 960-73 ft.; swabbing.

National Pet. Co. No. 1-C Lark, Blk. 128, Scrugham Sur.
Comp.; no gauge; T.D. 976 ft.

National Pet. Co. No. 2-C Lark, 150 ft. N and E lines, Blk. 128, Scrugham Sur.
T.D. 956 ft.; W.O.C.

Saxet Heights—Nueces County

Circle Oil Co. No. 1 Whelan, 330 ft. S and E lines tract, Villareal Sur.
Sand 4,058-78 ft.; W.O.C.

Conroe Drlg. Co. No. 1 Hatch, 330 ft. N and E lines, 4-ac. tract, McBride Partition.
Comp. 120 bbls. per day on 3/16-in. choke.

J. K. Culton No. 4 Whelan, 330 ft. N and E lines, tract, Villareal Sur.
Sand 4,062-90 ft.; comp. 730 bbls. per ady on ¼-in. choke.

Garland Clymore No. 1 Weil, 330 ft. NW and NE lines, 80-ac. tract.
Coring 4,797 ft.

Tom Graham No. 1 City of Corpus Christi, cen. 5-ac. tract, Villareal Sur.
Location.

Tom Graham No. 1 Whelan, 330 ft. N and E lines, 40-ac. tract, Villareal Sur.
Comp.; no gauge; T.D. 4,066 ft.

D. P. Hawn No. 1 William Shely, 9-ac. tract, Oak Park Addn.
Set csg. 4,092 ft.; perforated 4,075-85 ft.

Heep Oil Corp. No. 1 McBride, Villareal Sur.
Comp. 121 bbls. per day on 3/16-in. choke; sand 4,093-98 ft.

Heep Oil Corp. No. 2 Robinson, 660 ft. S No. 1, Villareal Sur.
Sand 4,092-98 ft.; comp. 120 bbls. per day on 3/16-in. choke.

Marine Oil Co. No. 1 Kaler, 150 ft. W line, 330 ft. S line, tract, Villareal Sur.
Comp.; no gauge; T.D. 4,098 ft.

W. D. Moore No. 1 Lackey, 250 ft. SW

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line, midway SE and NW lines, tract, Villareal Sur.
Comp.; no gauge; C.P. 1,375 lbs.; T.D. 4,088 ft.
Hiram Reed No. 1 Scheffield & Hutchins, center 2-ac. tract.
T.D. 4,126 ft.; W.O.C.
Republic Natural Gas Co. No. 3 Baldwin, 81.6-ac. tract, Blk. 20, Villareal Sur.
Comp. 375 bbls. per day on 3/16-in. choke; T.D. 4,095 ft.
Republic Natural Gas Co. No. 4 Baldwin, 330 ft. E line, 850 ft. S line, Blk. 19.
Set csg. 4,037 ft.; W.O.C.
Southern Minerals Corp. No. 2 Chas. Kaler, Villareal Survey.
Derrick.
Taylor Ref. Co. No. 1 J. Dunn, Villareal Sur.
Sand 4,036-44 ft.; preparing to test.
Westgate Oil Co. No. 1 Flood, cen. Blk. 4, Ellendale Gardens.
Derrick.
Westgate Oil Co. No. 1 Geistman, 20-ac. tract, Villareal Survey.
Derrick.

Ezzet—Nueces County

Benson & Cargray No. 1 Bertha Buckholt, cen. 9-ac. tract, C. Land Sur. No. 404.
Drlg. shale 4,207 ft.
R. B. Bryan No. 1 Clarkwood Townsite, 105 ft. S line, 190 ft. W line tract, Blk. 14, Land Sur. 404.
Moving in material.
R. B. Bryan No. 1 Isensee, 354 ft. N line, 174 ft. E line tract, Land Sur. 404.
Rigging up.
Capitol Oil Co. No. 1 Clarkwood, 130 ft. N and E lines, Blk. 2, Clarkwood Townsite.
Moving in material.
Clarkewood Oil Co. No. 1 Isensee, C Blk. 6, Clarkewood Townsite.
Sand 4,414-19 ft.; comp. 170 bbls. per day on 3/32-in. choke.
Conservative Oil Co. No. 2 K. Hutchins, 330 ft. S line, 430 ft. W line, Blk. 29.
T.D. 4,292 ft.; temp. abd.
J. K. Culton No. 4 Baldwin, 117 ft. E line, 330 ft. N line, Blk. 20, Villareal Sur.
Drlg. 3,257 ft.
Culton & Republic Nat. Gas Co. No. 1-C Baldwin, 330 ft. N and W lines, Blk. 13.
Spudded in.
A. C. Erwin No. 1 Isensee, Blk. 6, Clarkwood Townsite.
Top sand 4,419 ft.; comp. 216 bbls. per day on 7/32-in. choke.
Houston Oil Co. No. 2 Harrell, 330 ft. S and E line, Blk. 19, Farm Lots 576.
Set surface csg.; W.O.C.
Houston Oil Co. No. 9 Rand Morgan, 330 ft. W line, 1,028 ft. N line, sec. 7, Rincon del Oso Sur.
Drlg. 2,623 ft.
Houston Oil Co. No. 3 Hunter, 330 ft. S and W lines, 159.37-ac. tract, Sur. 586.
Sand 4,304-26 ft.; comp. in pits; no gauge.
Marine Oil Co. No. 2 Sam Kaler, Villareal Sur.
Set surface csg.; W.O.C. 500 ft.
Marine Oil Co. No. 1 Worley, 14.51-ac. tract, Villareal Sur.
Derrick.
Maryland O. & G. Co. No. 1 Winship, cen. Lot 2.
Drlg. shale 3,506 ft.
Morgan-Texas Oil Co. No. 1 Morgan, 990 ft. E line, 330 ft. N line, Sur. 402.
Set surface csg.; W.O.C.
Renwar Oil Co. No. 1 Winship, Blk. 3, Clarkewood Townsite, C. Land Sur.
Drlg. 3,788 ft.
Running tubing; T.D. 4,404 ft.
Southern Mineral Corp. No. 2 Smith, Blk. 4, Sheppard Farm Lots.
Sand 4,851-57 ft.; preparing to test.
Texon Royalty Co. No. 1 T. H. Isensee, sec. 404.
Spudded in.
Texon Royalty Co. No. 2 Kocurek, lease 156.53-ac. tract, J. R. Ward Survey No. 316.
Drlg. 513 ft.
Texon Royalty Co. No. 3 Kocurek, 330 ft. N and W lines, tract, Ward Sur. 316.
T.D. 4,416 ft.; comp. 750 bbls. per day on ¼-in. choke.

Plymouth—San Patricio County

Magnolia Pet. Co. No. 5 Corpus Christi Land Bank, 250 ft. E line lease, 933 ft. SW No. 5, Hunter Sur.
Moving in material.
Plymouth Oil Co. No. 33 C. Welder, 7,923 ft. S line, 710.5 ft. E line, sec. 71.
Setting csg. 5,621 ft.; W.O.C.
Plymouth Oil Co. No. 34-C Welder, 2,825 ft. N line, 1,116 ft. E line, sec. 49.
Drlg. sandy shale 5,305 ft.
Plymouth Oil Co. No. 35-C Welder, 457.5 ft. S line, 2,702.9 ft. E line, sec. 71.
Drlg. sand 4,806 ft.
Plymouth Oil Co. No. 36-C Welder, 2,590 ft. W line, 1,372 ft. N line, sec. 49.
Drlg. shale and shells 1,711 ft.
Plymouth Oil Co. No. 37-C Welder, 3,305 ft. E line, 670 ft. N line, sec. 49.
Set surface csg.; W.O.C.
Republic Nat. Gas Co. No. 1-B Baldwin, 660 ft. S No. 2, 44-ac. tract.
Drlg. 1,257 ft.
W. A. Richardson No. 1 Smith, C Blk. 4, Clarkwood townsite.
Rigging up.
Shell Pet. Corp. No. 3 Plato, 355 ft. N line, 330 ft. E line, Blk. 3.
Drlg. shale 2,237 ft.
Southern Minerals Corp. No. 1 Alkali, 330 ft. S line, 243 ft. E line, Southern Alkali Corp. site.
Rigging up.
Southern Minerals Corp. No. 1 Isensee, 660 ft. W No. 4-A Isensee, C. Land Sur.
Sun Oil Co. No. 2 Edgar, 330 ft. S and W lines, Blk. 1, sec. 34.
T.D. 7,025 ft.; dry and abd.
Sun Oil Co. No. 6 Hunt, 1,320 ft. S of No. 3, 466 ft. E line, sec. 34.
Drlg. 2,326 ft.
Sun Oil Co. No. 8 Hunt, 466 ft. S line, midway E and W lines, 154-ac. tract, sec. 34.
Location.

Taft Field—San Patricio County

Heep Oil Corp No. 1 Dentler, 330 ft. N and W lines, Lot 8, sec. 5, Second Addn. Farm Lands Subd.
Drlg. 4,812 ft.
Humble O. & R. Co. No. 1 Mayo, 330 ft. S and E lines, lease, Wm. Burns Sur.
Drlg. 1,725 ft.
George E. Smith No. 2 Britton, 330 ft. N line, 990 ft. W line, Blk. 8.
T.D. 4,953 ft.; dry and abd.

Samfordyce—Starr County

Porter & Pickens No. 2-B Garcia, 330 ft. N and W lines, 60-ac. tract, Blk. 4, Porc. 100.
T.D. 3,005 ft.; dry and abd.
Phillips and Barnsdall No. 7 Yturria Land & Cattle Co., 110-ac. lease, E½ Porc. 100.
T.D. 2,425 ft.; S.D. for repairs.

Carolina-Texas—Webb County

Foster Barnsby No. 5 Webster, Sur. 684.
Resumed drlg. 2,930 ft.

Cole—Webb County

Cole Pet. Co. No. 94 Rosa Benavides, 330 ft. NW and SW lines, Blk. 2, Sur. 13.
Coring 2,441 ft.

Lopez—Webb County

Hunter Co. No. 1 Billings, 8½, NE¼, Survey 113.
Drlg. 182 ft.
Mills Bennett Prod. Co. No. 1 Billings, 330 ft. S and E lines, NE¼ SE¼ Sur. 113.
T.D. 2,212 ft.; comp. 10 bbls. per hour.
Mills Bennett Prod. Co. No. 2 Garcia, 1,273 ft. N line, 330 ft. E line, Sur. 113.
T.D. 2,205 ft.; comp. 20 bbls. per hour on ½-in. choke.
Mills Bennett Prod. Co. No. 3 Montemayor, 2,310 ft. W line, 2,042 ft. N line, Sur. 114.
Drlg. 1,832 ft.
Mills Bennett Prod. Co. No. 1 Valdez, 330 ft. W line, 1,408 ft. N line, Sur. 111.
Drlg. 1,105 ft.
Luling O. & G. Co. No. 1 Peal, 330 ft. S and E lines, Blk. 11, Sur. 72.
Moving in material.
Montour Prod. Co. No. 2-A Lopez, 990 ft. W line, 2,691 ft. S line, Sur. 111.
Sand 2,221-33 ft.; comp. 13 bbls. per hour; T.D. 2,233 ft.
Montour Prod. Co. No. 3-A Lopez, 330 ft. W line, 1,933 ft. N line, Sur. 111.
Drlg. 2,008 ft.
G. G. Mortimer No. 1 F. L. Garcia, cen. 14.27-ac. tract, Sur. 114.
Sand 2,155-72 ft.; comp. 20 bbls. per hour on ½-in. choke.
G. G. Mortimer No. 1 Garcia Community Tract, 288 ft. W line, 330 ft. N line, 13-ac. tract, Sur. 114.
Rigging up.
G. G. Mortimer No. 4 Alonzo Lopez, 330 ft. N and E lines lease, Sur. 112.
Moving in material.
G. G. Mortimer No. 5 Maria Lopez, 990 ft. S and E lines, Sur. 112.
Sand 2,216-33 ft.; comp. 20 bbls. per hour.
Superior Oil Co. No. 6 Phillips, 2,310 ft. E line, 660 ft. N line, Sur. 109.
Drlg. plugs; sand 2,223-43 ft.

O'Hern—Webb County

O. W. Killam No. 45 Bruni, Sur. 453.
P.B. to 1,797 ft.; comp. 16,000,000 ft. gas.
O. W. Killam No. 46 Bruni, 330 ft. N and W lines, Sur. 455.
Drlg. 1,523 ft.
Magnolia Pet. Co. No. 33 Brennan Benavides, cen. Blk. 352.
Sand 2,740-52 ft.; comp. 10 bbls. per hour on 5/16-in. choke; T.D. 2,762 ft.
Magnolia Pet. Co. No. 3 J. Benavides, cen. Blk. 8.
T.D. 2,887 ft.; dry and abd.
Texas Co. No. 12 Benavides, 313 ft. SW line, 347 ft. NW line, Blk. 356.
T.D. 2,806 ft.; drlg. plugs.

Blas Uribe—Zapata County

O. W. Killam No. 6 Bruni, 4,509 ft. NE line, 7,297 ft. SE line, Tract B-7, Borrego grant.
T.D. 300 ft.; S.D.

Escobas—Zapata County

Texas Co. No. 84 Whitehead, 25,518 ft. SW line, 10,719 ft. SE line, Cerrito Blanco grant.
T.D. 1,252 ft.; drlg. plugs.

Haynes—Zapata County

L. C. Muckelroy No. 1 Haynes, Blk. 8, Comitas & Villa grants.
T.D. 805 ft.; S.D.
South Texas Oil Co. No. 1 Fee, 330 ft. N and W lines, Blk. 21, Sur. 768.
T.D. 1,742 ft.; swabbing.

WEST TEXAS WILDCATS

Week Ending February 29

Andrews County

Humble O. & R. Co. No. 1 H. A. Moore, sec. 13, Blk. A-20.
Derrick.
Tipplehorn No. 2 King, sec. 11, Blk. A-44.
Drlg. 3,335 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur.
Drlg. 295 ft.

Concho County

Maverick Oil Co. No. 1 Jim Rice, sec. 18, I.N.R. Ry. Sur.
T.P. 1,832 ft.; swbd. and headed 40 gr. oil; drlg. 1,852 ft.
John W. Westbrook No. 1 Ledbetter, sec. 2, Sur. 1,673.
Drlg. 2,075 ft.

Crane County

Big Basin Pet. Co. No. 1 Cowden.
Drlg. 2,300 ft.
Clark et al No. 1 A. P. Jordan, sec. 12, Blk. B-22, P.S.L. Sur.
Location.
Flaherty No. 1 E. Hughes, sec. 4, G.C.&S.F. Sur.
T.D. 2,076 ft.; P.B. 2,074 ft.; acidized; T.P. 2,043 ft.; C.O.
Humble O. & R. Co. No. 1 J. B. Tubb, sec. 11, Blk. B-27, P.S.L. Sur.
Drlg. 3,961 ft.
Keyes et al No. 1 Ed S. Hughes, sec. 93, Blk. X, Julia Prater Sur.
Drlg. 2,210 ft.
Moore Bros. No. 1 Barnsley, 1,320 ft. from S and W, sec. 43, Blk. 32, P.S.L. Sur.
Drlg. 183 ft.
Sinclair Prairie Oil Co. et al No. 1 Tubbs, 330 ft. from S and E, sec. 3, Blk. B-27, community test.
Show oil 2,980 ft. and 3,040 ft.; S.D. 3,164 ft. after acidizing.

Crockett County

J. G. Harris No. 1 Parker, sec. 83, Blk. 1, I.&G.N. Sur.
S.D. 1,920 ft.
John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&E. Sur.
Spudded and S.D.

Culberson County

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al No. 1 Borders, sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 4,913 ft.

Dawson County

Adams & Turner No. 1 John Robinson, sec. 46, Blk. M, E.L.R.R. Sur.
T.D. 4,862 ft.; underreaming casing.

Ector County

W. Dunning, Jr., No. 1 H. E. Cummins, 2,200 ft. from S and 440 ft. from E, sec. 33, Blk. 45, Twp. 1n, T.&P. Sur.
Standard tools.
W. P. Dunning, Jr. et al No. 1 Mrs. Clarence Scharbauer, sec. 33, Blk. 44, Twp. 1n, T.&P. Sur.
Drlg. 4,102 ft.
Stanolind O. & G. Co. No. 1 J. E. Witcher, sec. 24, Blk. 43, Twp. 2s, T.&P. Sur.
T.D. 4,230 ft.; P.B. 4,227 ft.; headed oil.

Edwards County

Paul Teas No. 1 J. B. Stewart, sec. 2, Blk. DA, G.C.&S.F. Sur.
Drlg. 2,209 ft.

Fisher County

Forest Dev. Co. No. 1 A. M. Dry, 640 ft. from S and 2,000 ft. from E, sec. 108, Blk. 2, H.&T.C. Sur.
Drlg. 2,081 ft.

Gaines County

Landreth Prod. Co. No. 1 Kirk, sec. 22, A-21.
Material.

STANDARD OIL CO. OF CALIFORNIA

Crude oil prices at the well effective February 26, 1936

Gravity—	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Athens-Rosecrans	Domingues	Flwood Terrace	Torrance	Richfield	Whittier (La Habra) East Coyote	Montebello	West Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset except Lakeview Area	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills
14-14.9	$ .75	$ .79	$ .74	$ .73	$ .79	$ .75	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .65	$ .70	$ .65	$ .70	$ .70	....	....
15-15.9	.75	.79	.74	.73	.79	.75	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
16-16.9	.75	.79	.74	.73	.79	.75	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
17-17.9	.75	.79	.74	.73	.81	.75	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
18-18.9	.75	.79	.74	.73	.84	.75	.76	....	....	....	.82	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
19-19.9	.75	.79	.74	.74	.87	.76	.81	....	....	....	.85	.76	.76	.77	.78	....	$ .70	.66	.74	.66	.74	.71	$ .70	....
20-20.9	.76	.79	.74	.75	.90	.75	.84	....	....	....	.88	.78	.82	.77	.80	....	.76	.68	.78	.68	.78	.72	.70	....
21-21.9	.78	.79	.74	.78	.93	.81	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.72	.71	.82	.71	.82	.74	.70	....
22-22.9	.89	.82	.74	.80	.96	.84	.92	....	....	....	.93	.84	.89	.79	.88	.73	.77	.74	.87	.74	.86	.78	.72	....
23-23.9	.82	.86	.77	.82	.99	.86	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.73	.80	.77	.92	.77	.90	.82	.76	....
24-24.9	.84	.91	.80	.84	1.02	.88	.99	.88	.81	....	.99	.91	.96	.85	.96	.75	.84	.80	.97	.80	.94	.86	.79	....
25-25.9	.86	.95	.82	.86	1.05	.91	1.03	.93	.83	....	1.02	.95	....	.89	.99	.77	.88	.83	1.01	.83	.98	.90	.83	....
26-26.9	.88	1.00	.85	.88	1.09	.93	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.79	.91	.86	1.06	.86	1.02	....	....	....
27-27.9	.90	1.05	.88	.90	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.82	.95	.88	1.10	.88	1.06	....	....	....
28-28.9	.92	1.10	.90	.91	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.84	.99	.91	1.15	.91	1.10	....	....	....
29-29.9	.94	1.15	.93	.93	1.18	....	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	.86	1.02	.94	1.20	.94	1.14	....	....	....
30-30.9	.96	1.19	.95	.95	1.21	....	1.21	1.17	.95	....	....	....	....	1.07	1.17	.89	1.06	.97	1.25	.97	1.18	....	....	....
31-31.9	....	....	....	....	1.24	....	1.24	1.22	.97	F.O.B.	....	....	....	1.11	1.21	.91	1.09	.99	1.29	.99	....	....	....	....
32-32.9	....	....	....	....	1.27	....	1.27	1.27	1.00	ship	....	....	....	1.14	1.25	.93	1.13	1.02	1.34	1.02	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	.95	1.17	1.04	1.38	1.04	....	....	....	$1.19
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.33	.98	1.20	....	....	....	....	....	....	1.23
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.00	....	....	....	....	....	....	....	1.27
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.02	....	....	....	....	....	....	....	1.31
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.04	....	....	....	....	....	....	....	1.35
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.07	....	....	....	....	....	....	....	1.39
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	....	1.43
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River and Round Mountain, 70 cents for all grades; Kern Front, 65c for all grades. Playa Del Rey prices f.o.b. pipe line.

Wahlenmaier Pet. Co. et al No. 1 E. H. Jones, sec. 414, Blk. G, C.C.S.D.&R.G.N.G. Sur., 23 miles NW Seminole.
Top gray lime 4,980 ft.; drlg. 5,160 ft.

W. T. Walsh et al No. 1 Averitt, sec. 228, Blk. G, W.T.R.R. Sur.
Elev. 3,322 ft.; gas show 2,785 ft.; increase 2,795 ft.; increase gas 3,132 ft.; drlg. 3,970 ft.

Garza County

M. L. Richards No. 1 Post Estate, sec. 6, Blk. 5, K. Avocck Sur.
Drlg. 2,361 ft.

Glasscock County

Fleetborn Oil Corp. No. 1 F. C. Dodson, 330 ft. from S and E, sec. 13, Blk. 34, Twp. 3s.
Rigged up spudder.

Hudspeth County

Haymon Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P. Sur.
Drlg. 837 ft.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur.
R.U. rotary.

Jones County

Hughes No. 1 Bumpass, T. Maltby Sur. No. 252.
T.D. 2,035 ft.; C.O.

Bob Elmore No. 1 Coton, sec. 10, D.D.&A. lands, 3 miles W of Avoca.
T.D. 1,520 ft.; U.R. csg.

Humphrey's No. 1 A. A. McDuff, 200 ft. from S and 710 ft. from E, sec. 1, Blk. 15, T.&P. Sur.
Drlg. 1,578 ft.

Parker No. 1 C. L. Brown, 200 ft. from N and W of lease, sec. 9, Blk. 2, T.&N. O. Sur.
Drlg. 175 ft.

Shaheen et al No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur.
T.D. 1,296 ft.

Shaheen et al No. 1 T. B. McCoy, sec. 1, Blk. 16, T.&P. Sur.
S.D. 380 ft.

Loving County

Mason Oil Co. No. 2 Mrs. M. Kyle, 330 ft. from N and 1,650 ft. from E, sec. 17, Blk. 55, Twp. 1.
Location.

Martin County

Woodley Pet. Co. No. 1 M. S. King, sec. 20, Blk. 35, Twp. 3s, T.&P. Sur.
Drlg. 1,739 ft.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, sec. 158, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard.
S.D. 626 ft.

Pecos County

Trans-Pecos Oil Co. No. 1 F. W. Popham, sec. 235, Blk. 11, G.H.&S.A. Sur.
T.D. 120 ft.; crooked hole.

Trans-Tex. Oil Co. No. 1 Caldwell, sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.O. 3,905-4,000 ft.; 1 bailer oil in 48 hrs.; S.D. 5,265 ft.

Trans Pecos Oil Co. No. 1 Gallaher, 330 ft. from N and 2,310 ft. from W, sec. 9, Blk. 51, T.&P. Sur.
Water well.

Presidio County

Linderman Bros. Oil Corp. No. 1 J. R. Bledsoe, sec. 15, Blk. 354, G.C.&S.F. Sur., 2½ miles N of Presidio.
Elev. 2,732 ft.; drlg. 1,290 ft.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL, T.C. Ry. Sur.
T.D. 950 ft.; set csg.

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28.
Elev. 2,209 ft.; S.D. 4,407 ft.; show gas 4,350 ft.

Scurry County

Bristow & Cantrill No. 1 Shannon, Est., sec. 331, Blk. 97, H.&T.C. Sur.
T.D. 1,700 ft.; set csg.

Coffield & Guthrie No. 1 Wade, 990 ft. from N and 330 ft. from W, sec. 115, Blk. 97, H.&T.C. Sur.
T.D. 3,168 ft.; P.B. to 1,900 ft.; waiting on csg.

G. W. Guthrie No. 1 Sorrells, sec. 101, Blk. 97, H.&T.C. Sur.
Material.

Upton County

Cordova Union No. 1 fee, 672 ft. S of I.T.L.O. No. 1 Cordova Union, sec. 3, Blk. A.B.
T.D. 2,176 ft.; P.B. 2,075 ft.; pumped mostly water.

John Emch and Shell Pet. Corp. No. 1 Gordon, sec. 47, Blk. Y, T.C. Ry. Sur.
Elev. 2,677 ft.; drlg. 2,622 ft.

Greencliff Oil Corp. et al No. 1 J. H. Tippett, C NE¼ sec. 58, Blk. Y, T.C. Sur.
T.D. 1,660 ft.; set csg.

I.T.L.O. and Foster No. 1 Cordova Union, 624 ft. W of Ray No. 1 Cordova Union, sec. 3, Blk. AB, A. E. Baxley Sur.
T.D. 2,135 ft.; P.B. to 2,077 ft.; pumping and testing.

J. G. McKenzie No. 1 Taylor, sec. 32, Blk. B-2, G.H.&S.F. Sur.
T.D. 630 ft.

O. F. M. No. 1 King Ranch, sec. 22, Blk. 35, H.&T.C. Sur.
Drlg. 1,260 ft.

Ward County

Abell Brothers' No. 1 Lancaster Estate sec. 61, Blk. 3, H.&G.N. Sur. in Pecos County, 5½ miles down Pecos River from NW cor. of Pecos and E cor. of Reeves County.
Drlg. 1,415 ft.

California Co. No. 1 L. Adams, 990 ft. from SW and SE, sec. 39, blk. 34, H.&T.C. Sur.
Derrick.

C. Cothran No. 1 Greene, sec. 29, Blk. B-29, P.S.L. Sur.
T.D. 2,328 ft.; swbd. dry and started refilling.

Lindsay & Bolin No. 1 Thomas, 330 ft. from SW and SE, sec. 31, Blk. 34, H.&T.C. Sur.
Drlg. 1,872 ft.

Olsen & Anderson No. 1 Yell, W. F. Stewart Sur., sec. 6.
T.D. 2,600 ft.; P.B. to 2,455 ft.; testing; no oil.

Peck et al No. 1 Reynolds, 220 ft. from NW and 300 ft. from SW of W cor., sec. 12, Blk. 32, H.&T.C. Sur.
S.D. 550 ft.

Winkler County

Cherry et al No. 1 Central State Bank of Abilene, sec. 25, Blk. 26, P.S.L. Sur.
T.D. 2,775 ft.; tested.

Emperor Oil Co. No. 1 Continental-Holley, sec. 12, Blk. 8-12.
T.P. 2,704 ft.; T.D. 2,943 ft.; P.B. 2,933 ft.; swbng. to test.

Falcon Oil Co. No. 1 McCutchen, sec. 15, Blk. B-2, P.S.L. Sur.
Drlg. 3,376 ft.

Gulf Prod. Co. No. 1 Hill, sec. 9, Blk. B-11.
Drlg. 3,677 ft.

R. H. Henderson No. 1 McCutchen, sec. 16, Blk. B-3.
Derrick.

Herbert Oil Co. No. 1 I. Hendrick, 2,310 ft. from S and W, sec. 14, Blk. 26, R.U. rotary.

K-D Oil Co. No. 1 P. Mitchell, sec. 23, Blk. B-16, P.S.L. Sur.
Drlg. 162 ft.

Magnolia Pet. Co. No. 1 N. R. Colby, sec. 38, Blk. 26, P.S.L. Sur.
Drlg. 2,535 ft.

Magnolia Pet. Co. No. 1 State-Walton, sec. 7, Blk. B-3.
Drlg. 3,346 ft.

Fred Hyer No. 1 Evans, sec. 8, Blk. 56.
Drlg. 2,258 ft.

Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Sur.
Drlg. 2,071 ft.

Maxwell et al No. 1 State-Walton, sec. 27, Blk. B-3.
Drlg. 922 ft.

Thurman et al No. 1 Seth Campbell 18-B-3, sec. 18, Blk. B-3, P.S.L. Sur.
T.D. 3,390 ft.; cleaning out.

Sun Oil Co. No. 1 Keystone, sec. 3, Blk. 77.
Drlg. 1,469 ft.

Superior O. & G. Co. of Tulsa No. 1 M. J. Hill, sec. 18, Blk. B-11, P.S.L. Sur.
Drlg. 775 ft.

Uscan Oil Co. No. 1 J. B. Walton, 330 ft. from S and 2,310 ft. from W, sec. 10, Blk. 26.
R.U. rotary.

Uscan Oil Co. No. 1 J. B. Walton, 330 ft. from N and E, sec. 9, Blk. 26.
Derrick.

Wahlenmaier and Atlantic Oil Prod. Co. No. 1-A Walton, sec. 34, Blk. 74.
Drlg. 2,012 ft.

Yoakum County

C. J. Davidson et al No. 1 Bennett, sec. 678, John H. Gibson Sur.
Elev. 3,557 ft.; drilled to 5,106 ft.; struck wtr.; to P.B. and acidize or shoot.

Texas Panhandle Wildcats

Week Ending February 29

Cottle County

Alma Oil Co. No. 1 Yarbrough, sec. 546, Blk. H, W.&N.W. Sur.
Drlg. 2,276 ft.

Gray County

Harry Foster No. 1 Johnson, sec. 21, L. L. Erwin Sur.
S.D. 2,575 ft.

Iverson et al No. 1 McKinney, sec. 137, Blk. 2, I.&G.N. Sur.
Drlg. 2,988 ft.

K. Kinsey No. 1 Stephens, sec. 137, Blk. N and 1,900 ft. from E, sec. 546, Blk. H, B-2, H.&G.N. Sur.
T.D. 2,475 ft.; standardizing.

Saulsbury Oil Co. No. 1 Husted, C W½ sec. 116, Blk. B-2, H.&G.N. Sur.
Derrick.

Upland Oil Co. No. 1 Saunders, sec. 3, Blk. 1, B.S.&F. Sur.
S.D. 350 ft.

Hall County

Davis et al No. 1 Knorpp, 330 ft. S and W, sec. 7, Blk. A, A.B.&M. Sur.
S.D. 530 ft.

Hartley County

O. V. Beck et al No. 1-A Matador Ranch, sec. 20, Blk. 22, C.S.S. Sur.
Drill pipe stuck 4,600 ft.

Hutchinson County

Phillips Pet. Co. No. 1 Bryan, sec. 6, Blk. M-21, T.C. Ry. Sur.
Location.

West Texas Completions

Completions in West Texas in the past week, with their top of sand and total depth record and initial production were as follows:

Borden County

C. E. Hyde No. 1 Miller, dry and abandoned 3,805 feet, elevation 2,727 feet.

Crane County

Gulf Production Co. No. 127 McElroy, 2,693-2,917 feet, shot, 295 bbls.; No. 3 Henderson, 3,522-3,534 feet, acidized, 649 bbls. in two hours.

Ector County

Stanolind Oil & Gas Co. No. 26 Cowden, 4,210-4,250 feet, shot, 1,213 bbls.

Fisher County

General Crude Oil Co. No. 4 Bledsoe, total depth 3,810 feet, plugged back 3,080 feet, acidized, dry and abandoned.

Glasscock County

Empire Gas & Fuel Co. No. 4 Hare, dry and abandoned 2,360 feet, plugged back to 2,310 feet.

Jones County

Ungren and Frazier No. 2 Jennings, 2,058-2,064 feet, 250 bbls. pumping.

Pecos County

Tex-Mex Petroleum Corp. No. 1 Phillips-Brandenburg, 2,163-2,325 feet, shot, 76 bbls. Dittman No. 1 Shell-Eaton, total depth 1,645 feet, plugged back 1,641 feet, shot, 60 bbls. in 17 hours. Ajax Drilling Co. No. 1 University, total depth 1,765 feet, plugged back 1,719 feet, acidized three times, 8 bbls. per day pumping. Stanolind Oil & Gas Co. No. 13-A Tippett, total depth 493 feet, 169 bbls. Cardinal Oil Co. No. 1-44 White and Baker, 1,734-1,875 feet, 15,000,000 feet gas. Marathon Oil Co. No. 24 Smith-Taylor, 1,323-1,582 feet, 2,315 bbls. per hour; No. 12-H Yates, 1,580-1,665 feet, 637 bbls. per hour; No. 9-D Yates, 1,120-1,219 feet, 130 bbls. per hour.

Upton County

Gulf Production Co. No. 5-E Sherk, 2,530-2,546 feet, acidized and shot, 162 bbls. oil and 18 bbls. water per day.

Ward County

Texas Pacific Coal & Oil Co. No. 3 Barker, 2,250-2,400 feet, shot, 510 bbls. Rio Bravo Oil Co. No. 2 Alcott, total depth 2,532 feet, shot, 2,951 bbls.

Winkler County

Magnolia Petroleum Co. No. 12 Walton, top pay 3,310 feet, plugged back 3,000 feet, 12,000,000 feet gas. Westbrook Oil Co. No. 4 Daugherty, 2,836-3,000 feet, shot, 839 bbls. Shell Petroleum Corp. No. 2-J Hendrick, 2,840-3,009 feet, shot, 983 bbls. Sayre Oil Co. No. 1 Howe, 2,785-2,971 feet, shot, 1,462 bbls. Atlantic Oil Producing Co. No. 3-J Hendrick, 2,780-3,020 feet, shot, 808 bbls.

Oil Man's Calendar

March

10—Long Beach, Calif., Los Angeles Basin Chapter, A.P.I., Division of Production.

12-13—Boston, Mass., Oil Men's Association of New England, Copley Plaza Hotel.

13—Oklahoma City, Okla., Interstate Oil Compact Commission, quarterly meeting, Capitol Building.

18-19—Indianapolis, Ind., Indiana Independent Petroleum Association, Inc., spring convention and refiners' and suppliers' exhibit, Hotel Severin.

19-21—Tulsa, American Association of Petroleum Geologists, twenty-first annual meeting.

April

9-10—Excelsior Springs, Mo., Western Petroleum Refiners Association, Elms Hotel.

9-10—Shreveport, La., A.P.I., southwestern Division of Production, Washington-Youree Hotel.

11-13—Tulsa, Petroleum Industry Electrical Association.

13-17—Kansas City, Mo., American Chemical Society, Petroleum Division, Symposium on Motor Fuels.

14—Los Angeles, Calif., A.P.I., Division of Production, spring meeting.

14-18—Detroit, Mich., Oil Burner Institute.

16-18—Cleveland, Ohio, National Petroleum Association, semiannual meeting, Cleveland Hotel.

20-25—Houston, Tex., Oil Equipment and Engineering Exposition.

May

5-8—Dallas, Tex., A.G.A. Natural Gas Department, Baker and Adolphus Hotels.

13-15—Tulsa, Natural Gasoline Association of America, fifteenth annual convention, Hotel Tulsa.

13-15—Tulsa, midyear meeting, American Petroleum Institute, Mayo Hotel.

16-23—Tulsa, International Petroleum Exposition and Congress.

21—Tulsa, Independent Petroleum Association of America, midyear meeting.

22—Tulsa, National Stripper Well Association.

25-27—New York, A.G.A. Production and Chemical Conference.

25-28—New Orleans, La., National Association of Purchasing Agents Convention.

June

18-19—State College, Pa., Pennsylvania Grade Crude Oil Association, thirteenth annual meeting.

LEA COUNTY, N. M., COMPLETIONS RUN HIGH IN AVERAGE OUTPUT

By T. R. INGRAM

DENVER, Colo., Mar. 2.—The southeastern New Mexico fields monopolized the features of the past week in review, in the state, Lea County showing completions as high as 3,000 bbls., 4,000 bbls., 7,000 bbls. and 11,000 bbls. initially, with a number of other but smaller wells. New work was fully up to the completed work.

In the Hobbs pool, Oilwell Drilling Co. No. 1 Morris, SW SW SE section 21-18-38, was acidized with 2,000 and then with 6,000 gallons, and in the first 24 hours the well flowed 7,291 bbls. of oil through casing and tubing. Its tubing gauge for 24 hours was 2,526 bbls. of oil. It also made 4,650,000 feet of gas. The well was completed.

In the Eunice pool, Lea County, a number of completions were recorded. Continental Oil Co. No. 2-B-4 Meyer, SW SW SE section 4-21-36, had pay at 3,840-95 feet, and in the first 24 hours it flowed naturally 840 bbls. of oil through three-fourths-inch tubing choke, and made 1,000,000 feet of gas. Same company's No. 4-B-4 Meyer, C NE SW section 4-21-36, with pay at 3,752,-3,890 feet, made a natural flow of 780 bbls. through three-fourths-inch tubing choke in 24 hours. Same company's No. 5-B-4 Meyer, 2,200 feet from south and 440 feet from east lines of SE quarter section 4-21-36, was acidized wth 1,500 gallons at 3,755-3,880 feet and flowed 612 bbls. of oil through tubing, with 971,000 feet of gas.

Gulf Oil Corp. No. 2 North Bell-State, C NE SE section 6-21-36, was acidized with 2,000 gallons at 3,797-3,885 feet and produced 187 bbls. of oil through tubing and 200,000 feet of gas.

Empire Gas & Fuel Co. No. 4 State C, C SE SW section 16-21-36, was acidized with 2,000 and then 4,000 gallons at 3,850-3,912 feet and flowed 3,024 bbls. in 24 hours through tubing, and produced 2,500,000 feet of gas.

Skelly Oil Co. No. 6 State B, C SE NW section 16-21-36, made a natural flow of 854 bbls: through tubing, with 800,000 feet of gas, in 24 hours.

The Getty Oil Co. completed its gusher well, No. 1 State C, C SE NE section 16-21-36, which made a natural flow of 11,640 bbls. through casing from pay at 3,797-3,886 feet, with the drill pipe in the hole. It is now producing its allowable through tubing.

In the Cooper area in Lea County, Skelly Oil Co. completed No. 1 H. O. Simms, C SW NE section 4-23-37. It was shot with 370 quarts at 3,548-3,687 feet and flowed 68 bbls. in 24 hours through 25/64-inch tubing choke, with 150,000 feet of gas.

One well was completed in the Monument area in Lea County, the Texas Co. No. 2 State E, C SE SW section 1-20-36. It flowed 4,008 bbls. through tubing in 24 hours, following an acid dose of 2,000 gallons.

Status of drilling wells in the southeastern New Mexico fields is given below:

Cooper Area

Skelly Oil Co. No. 1 Harrison, C NW SW sec. 5-23-37.
T.D. 3,794 ft.; plugged back to 3,762 ft.; will put on pump; flows 29-bbl. heads in 25 minutes.

Gulf Oil Corp. No. 2 Cooper, C NW SE sec. 14-24-36.
T.D. 3,693 ft.; sulfur water; plugged back to 3,550 ft.; set packer at 3,460 ft.; perforated below; tested dry gas, estimated 15,000,000 ft.

General Crude Oil Co. No. 1 State-F, C SW SW sec. 2-24-36.
T.D. 3,510 ft.; set 5½-in. casing.

Amon Carter et al No. 1 Hair, C SW NW sec. 11-24-37.
T.D. 3,760 ft.; shot; estimated 40 bbls. daily; cleaning out.

Skelly Oil Co. No. 1 King, C SE NW sec. 4-23-37.
Drlg. 2,494 ft.

Skelly Oil Co. No. 1 R. R. Simms, C SE SE sec. 4-23-37.
Drlg. 3,478 ft.

Skelly Oil Co. No. 1 Steeler, C NW NE sec. 17-23-37.
Tested 2,800,000 ft. of gas at 3,758 ft.; plugged back from 3,810 ft.

Plains Production Co. No. 1 R. L. Moseley, C NW SE sec. 34-24-37.
Drlg. 115 ft.

Monument Area

Amerada Pet. Corp. No. 1 Weir-A, C NW SW sec. 25-19-36.
Drlg. 3,694 ft.

Amerada Pet. Corp. No. 1 Phillips, NE NE NE sec. 1-20-36.
T.D. 3,230 ft.; shut down for repairs.

Gulf Oil Corp. No. 2 Graham-State "B," C NE SE sec. 2-20-36.
T.D. 1,340 ft.; set 7-in. casing.

Texas Co. No. 2 State-F, SE SE sec. 24-19-36.
Drlg. 2,350 ft.

Gulf Oil Corp. No. 1 Graham-State-F, SE SE SE sec. 36-19-36.
Drlg. 2,537 ft.

Skelly Oil Co. No. 1 Christmas, C SW SW sec. 25-19-36.
Drlg. 225 ft.

Amerada Petroleum Corp. No. 1 State-E, C SE NW sec. 2-20-36.
Drlg. 2,868 ft.

Amerada Petroleum Corp. No. 2 Weir, C NW NW sec. 2-20-36.
Drlg. 1,066 ft.

Gulf Oil Corp. No. 2 Graham-State-F, C NE SE sec. 2-20-36.
T.D. 3,915 ft.; flowed 3 bbls. per hour.

Barnsdall Oil Co. No. 4 Cooper, C SE NE sec. 12-20-36.
Drlg. 700 ft.

Hobbs Area

Continental Oil Co. No. 1-A-6 Britt, C SW SW sec. 6-20-37.
T.D. 3,695 ft.; tubing to test; at 3,553 ft. flowed 66 bbls. in 1 hour; gas 1,250,000 ft. per day.

Gulf Oil Corp. No. 1 Steve Taylor, C SE NE sec. 24-18-38 (wildcat).
T.D. 4,883 ft.; plugged back to 4,596 ft.; bailed down 4,600 ft.; testing.

Shell Pet. Corp. No. 1 State-E, C W½ SE SE sec. 14-18-37.
T.D. 4,374 ft.; plugged back to 4,178 ft.; S.D.

Texas Co. No. 1 State-C, C SE SW sec. 19-19-37.
T.D. 3,787 ft.; fishing for drill pipe.

Amerada Pet. Corp. No. 1 State-L, C SW NW sec. 29-19-37.
T.D. 3,815 ft.; set 7-in. casing.

Gulf Oil Corp. No. 1 Graham-State "D," C SW SE sec. 19-19-37.
T.D. 3,797 ft.; running 7-in. casing.

Texas Co. No. 2 State-G, C SW SW sec. 19-19-37.
Drlg. 2,810 ft.

Amerada Pet. Corp. No. 1 State-L, C SW NW sec. 20-19-37.
Drlg. 3,573 ft.

Anderson & Prichard Corp. No. 2 Britt, C NE NW sec. 7-20-37.
Drlg. 2,000 ft.

Ohio Oil Co. No. 1 State-Elliott, C NW SE sec. 30-19-37.
Drlg. 1,025 ft.

Texas Co. No. 1 Phillips, NW NW NW sec. 6-20-37.
Drlg. 1,094 ft.

Sun Oil Co. No. 1 McKinley, SW SW NE sec. 20-18-38.
T.D. 4,242 ft.; plugged back to 4,208 ft.

Gulf Oil Corp. No. 4 Culp, C SW NE sec. 19-19-37.
Drlg. 1,213 ft.

Shell Petroleum Corp. No. 1 State-D, C NW SE sec. 19-19-37.
Drlg. 3,350 ft.

Lea County—Miscellaneous

Harry Leonard No. 1 Justice, C SW NW NW sec. 20-25-37.
T.D. 3,501 ft.; plugged back to 2,970 ft.; S.D.

Harry Leonard No. 1 Leonard-Lanhart, C SW NE sec. 21-25-37.
Drlg. 1,530 ft.

Stanolind O. & G. Co. No. 29 Farnsworth, C SW NW sec. 18-26-37.
Drlg. 2,892 ft.

W. I. Todd et al No. 1 Lemon permit, C NW SW sec. 17-21-32.
Drlg. 2,806 ft.

Maljamar O. & G. Co. No. 6 Baisch, C NW SE sec. 21-17-32.
T.D. 2,475 ft.; estimated 10 bbls. a day.

Vierson & Brown No. 1 Robbins, C NW SE sec. 14-11,32.
T.D. 4,796 ft.; may abandon.

Shell Petroleum Corp. No. 1 State-Endure-D, C SE NW sec. 11-21-35.
Spudded.

Culbertson-Irwin & Stovall No. 1 Stuart, C SW SE sec. 10-25-37.
Drlg. 1,115 ft.

Shell Petroleum Corp. No. 1 State-H, C SE SE sec. 13-21-35.
Drlg. 315 ft.

Eddy County

Ohio Oil Co. No. 1 State-McCullough, SE SW sec. 16-17-30.
Drlg. 1,595 ft.

Flint & Berry No. 1 Berry, C SE SW sec. 24-17-27.
Drlg. 120 ft.

Flynn, Welch & Yates Oil Co. No. 72 State, 330 ft. from N and 1,670 ft. from E lines of sec. 10-19-28.
Drlg. 860 ft.

Dooley & Dixon No. 1 Commerce, NW quarter sec. 15-20-27.
T.D. 352 ft.; running casing.

Tex. Patillo No. 2 Thompson, 200 ft. from N and E lines of sec. 1-20-28.
Drlg. 310 ft.

Emperor Oil Co. No. 2 Puckett, C W½ NW NE sec. 24-17-31.
T.D. 3,923 ft. in lime; testing; flows 125 bbls. daily through 2-in. tubing.

Barnsdall Oil Co. No. 3 Dodd, C SE NE sec. 22-17-29.
T.D. 2,536 ft.; plugged back to 2,725 ft; shot twice; cleaning out.

D. & B. Oil Co. No. 1 Jenkins, C NW SW NW sec. 20-17-30.
T.D. 3,258 ft.; flowed 100 bbls. a day naturally; acidized.

Etz Bros. No. 2-State, C NW SW sec. 16-17-30.
Drlg. 480 ft.

H. D. Compton No. 3 Brainard, 200 ft. from S and 545 ft. from E lines of SE¼ sec. 5-18-27.
Drlg. 1,105 ft.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25.
S.D. 1,750 ft.

Eunice Area

General Crude Oil Co. No. 1 State, C NW SW sec. 32-21-36.
T.D. 3,974 ft.; pumped 50 bbls. oil and 10 bbls. water in 12 hrs.; preparing to clean out; completed.

Gulf Oil Corp. No. 7 Bell-Ramsey, State, C SW NW sec. 4-21-36.
T.D. 4,217 ft.; plugged back to 3,923 ft.; testing.

Gulf Oil Corp. No. 1 A. L. Christmas, SE SE SE sec. 27-22-36.
T.D. 3,821 ft. in lime and sand; will deepen to 4010 ft.

Gulf Oil Corp. No. 1 Janda-B, C NW SE sec. 32-21-36.
Drlg. 3,642 ft.

Ohio Oil Co. No. 1 State-Maxwell, C NE NW sec. 16-22-36.
T.D. 3,886 ft.; rigging up rotary to clean out.

Ohio Oil Co. No. 4 State-McDonald, C SE SE sec. 16-22-36.
T.D. 3,920 ft.; acidized; no results.

Barnsdall Oil Co. et al No. 1 Hardy, C SE NE sec. 29-21-37 (wildcat).
Drlg. 3,455 ft. in lime.

Continental Oil Co. No. 1-B-4 Meyer, C SE SW sec. 4-21-36.
Drlg. 3,402 ft.

Gulf Oil Corp. No. 4 Orcutt, C NE NW sec. 5-21-36.
Drlg. 3,570 ft.

Gulf Oil Corp. No. 5 Orcutt, C SW SE sec. 5-21-36.
Drlg. 3,525 ft.

Gulf Oil Corp. No. 1 East Bell-State, C NW NW sec. 15-21-36.
T.D. 3,755 ft.; fishing.

Skelly Oil Co. No. 1 King-B, C SW SE sec. 32-22-37.
Drlg. 3,252 ft.

Gulf Oil Corp. No. 1 Eunice-Graham-State, C SW SE sec. 6-21-36.
Spudding.

Humble O. & R. Co. No. 1 J. D. Knox, C NW SE sec. 10-21-36.
T.D. 1,373 ft.; set 8⅝-in. casing.

Gulf Oil Corp. No. 1 H. C. Collins, C SE NW sec. 14-21-36.
T.D. 3,055 ft.; gas blow-out; killing gas.

Tide Water Oil Co. No. 2 State-D, C SW SE sec. 16-21-36.
Drlg. 1,810 ft.

Gulf Oil Corp No. 4 Arnott Ramsey-C, C SW NW sec. 21-21-36.
T.D. 3,919 ft.; will test.

Amerada Pet. Corp. No. 3 Houston, C NW NE sec. 7-21-36.
Drlg. 3,152 ft.

Continental Oil Co. No. 1-B-18 Meyer, C SE NW sec. 18-21-36.
Drlg. 3,244 ft.

Empire Gas & Fuel Co. No. 4 State-D, C NE NE sec. 32-21-36.
T.D. 1,940 ft.; set casing.

Texas Pacific Coal & Oil Co. No. 1 State Acct. 2, C SE SW sec. 9-22-36.
Old well; T.D. 3,835 ft.; deepened to 3,874 ft.; plugged back to 3,873 ft.; shut in for storage.

Continental Oil Co. No. 4-A-18 Lockhart, C SW SW sec. 18-21-36.
Drlg. 3,033 ft.

Continental Oil Co. No. 6-B-4 Meyer, NW sec. 4-21-36.
T.D. 320 ft.; set 10¾-in. casing.

Devonian Oil Co. No. 3 State-Heasley, C NE NE sec. 5-21-36.
T.D. 299 ft.; set 12½-in. casing.

Gulf Oil Corp. No. 1 Graham-State-E, C SW SE sec. 6-21-36.
T.D. 1,275 ft.; set 7⅝-in. casing.

Gulf Oil Corp. No. 5 Arnott-Ramsey C, C SE SW sec. 21-21-36.
Drlg. 590 ft.

Continental Oil Co. No. 3-B-28 Lockhart, C NW SW sec. 28-21-36.
Drlg. 800 ft.

Continental Oil Co. No. 4-B-28 Lockhart, C SW SW sec. 28-21-36.
T.D. 1,785 ft.; set 7⅝-in. casing.

Humble Oil & Refining Co. No. 8 State-B, C SE SE sec. 29-21-36.
Drlg. 3,265 ft.

Gulf Oil Corp. No. 1 Arnott-Ramsey-D, C NW NW sec. 33-21-36.
Drlg. 1,475 ft.

Skelly Oil Co. No. 1 J. V. Baker, C SE SW sec. 22-22-37.
Drlg. 3,360 ft.

Skelly Oil Co. No. 1 King-B, C SW SE sec. 32-22-37.
Drlg. 3,575 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e.
Drlg. 1,100 ft. in sand and gravel; show carbon-dioxide gas.

Harding County

Khaay et al No. 1 De Baca, C sec. 19-20n-31e.
Running 8¼-in. at 847 ft.; 10-in. at 250 ft.

McKinley County

Seward et al No. 1 State, NE SE NE sec. 2-19n-9w.
Drlg. 518 ft.

Seward et al No. 1 fee, C NW SE sec. 35-20n-9w.
S.D. 130 ft. in shale.

Forth & Hickerson No. 2 Santa Fe, NE NW NE sec. 29-20-9w.
Drlg. 400 ft.

Montrose O. & G. Co. No. 1 State, NE NE sec. 28-20n-9w.
T.D. 670 ft.; missed shallow sand; may plug.

Quay County

Quay County Dev. Co. No. 1 Wallace, SW SW SE sec. 19-9n-33e.
S.D. 816 ft.; rainbows at 814 ft.; show of S.W. at 775 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd., No. 1 Tierra Amarilla grant, NE sec. 26-3s-1e (unsurveyed).

San Juan County

Jack Amenda No. 3, SW NW SW sec. 25-30n-12w.
S.D. 920 ft. for orders.

Jack Amenda No. 4 fee, NW NE SW sec. 25-30n-12w.
Drlg. 420 ft. in shale.

J. F. Cross et al No. 1 Wilson, SW SW SE sec. 17-30-11w.
S.D. 810 ft.

Continental Oil Co. No. 51 Tribal, C NW NE sec. 2-29n-19w.
Set 9⅝-in. at 25 ft. (first report).

Cross & Pool No. 1 Aztec, sec. 1-30-11w.
Making water shutoff at 740 ft.

Nick Spatter No. 1 fee, C NE SW sec. 32-31-11w.
Running 6⅝-in. at 1,780 ft.

Southern Union Gas Co. No. 5 Government, C NE NE sec. 14-28n-11w.
Drlg. 925 ft. in shale; show for 250,000 ft. of gas in sand at 913-18 ft.

Torrance County

42 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e.
Drlg. 1,410 ft. in hard sand.

Bruce Frazier No. 1 Frazier, SE sec. 12-2n-31e.
Drlg. 1,210 ft. in granite wash; water at 882-86 ft.

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Feb. 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1934 High	1934 Low	1933 High	1933 Low
92⅜	48½	6,800	92⅜	84	91	Amerada Corp.	788,675	N.P.	50cQ	3-16-36	$2.00	55⅝	39	47⅝	18½
34	20½	18,800	32½	30	31⅜	Atlantic Refining	2,664,904	$25	25cQ	12-16-35	1.00	35¼	21½	32½	12⅜
18⅜	5⅞	18,100	17½	16¼	17	Barnsdall Corp.	2,195,397	$5	15cQ†	2-1-36	‡.20	10	5⅞	11	3
20⅜	3⅜	94,400	17½	15¾	16⅞	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-15-35	.20	19¼	6⅝	28⅛	9
15	6½	102,300	14⅝	13¼	14⅜	Consolidated Oil Corp.	13,996,072	N.P.	25c	4-7-36	.25	14¼	7¼	15⅝	5
38½	15½	23,100	37⅛	35⅝	35⅝	Continental Oil of Delaware	4,682,722	$5	25c	1-31-36	.62½	22⅜	15⅜	19⅝	4⅜
34⅜	11¾	9,600	33¾	31½	32¼	General Asphalt	387,149	$10	25c	12-17-35	.25	23½	12	27	4⅝
12¼	1½	31,200	11⅞	10⅜	11	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
22	9½	7,900	20⅛	19	19½	Mid-Continent Petroleum	1,857,912	$10	25c	12-2-35	.40	14⅜	9⅛	16	3⅜
32	9	14,400	32	27½	31⅝	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
17½	9¼	20,000	16¾	15¾	16¼	Ohio Oil Co.	6,563,377	N.P.	15cSA	12-14-35	.30	15⅞	8½	17⅝	4⅜
18	6¾	2,000	16¾	15¼	16	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	9⅜	5½	9½	3
3¾	½	600	2⅞	2⅝	2⅝	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅝
45⅜	13¾	20,100	44	41⅝	43	Phillips Petroleum	4,154,687	N.P.	50c†	2-29-36	1.25	20¾	13⅜	18⅜	4⅝
15¼	6½	6,200	14½	13¾	14	Plymouth Oil Co.	1,050,000	$5	25c	3-30-35	.25	16¾	7¼	17⅝	6⅜
21½	5⅞	55,800	21½	19¾	20¾	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
57	29½	400	54½	53½	54½	Royal Dutch N. Y. shares	fl. 503,642,000	fl. 100	$1.70	8-1-35	1.70	39¼	28⅝	39⅜	17⅜
38	20⅜	18,400	36¾	33¼	36⅝	Seaboard Oil of Delaware	1,244,283	N.P.	15cQ†	3-14-36	1.00	38⅜	20¾	43⅜	15
19¼	5½	16,100	18¾	16⅞	17½	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
117	63⅛	800	116¾	115	115	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	4¾	7,800	5¼	5	5⅛	Simms Petroleum	461,698	$10	1.25 liq.	10-18-35	11.75 liq.	17⅛	7¼	12⅜	4⅜
27¾	6½	2,700	25⅛	24	24¼	Skelly Oil	1,008,514	$15	....	12-15-30	....	11½	6	9⅞	3
17	10⅝	58,300	16	15¼	15⅜	Socony-Vacuum	31,154,379	$15	20cSA	3-16-36	.30	19⅞	12½	17	6
47⅝	27¾	26,300	46⅛	44¾	45½	Standard Oil of California	13,102,900	N.P.	25cQ†	3-16-36	1.00	42⅞	26½	45	19½
40⅛	23	20,200	39⅛	37⅛	38⅝	Standard Oil (Indiana)	15,215,677	$25	25cQ	3-16-36	1.00	32¾	23¼	34	17
32	20	500	30	29½	29½	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	41	26	39⅞	12⅜
61¾	35¾	45,100	60¾	58¼	59⅞	Standard Oil of New Jersey	25,856,081	$25	50cSA†	12-16-35	‖1.25	50⅛	39¼	47½	22⅝
89	60½	800	85¾	83	84	Sun Oil	1,733,013	N.P.	25cQ	3-16-36	$1 & 7% Stk.	74¼	51½	59	35
37⅜	16½	72,300	37⅜	34	37	Texas Corp.	9,486,417	$25	25cQ	4-1-36	1.00	29⅜	19⅝	30⅛	10⅜
15¼	3¼	100,100	15¼	12⅛	15¼	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅝
19⅛	7⅝	32,100	19	17⅝	18⅛	Tide Water Associated	5,631,341	N.P.	25c	1-15-36	....	14⅜	8	11⅜	3¼
105	84	1,800	105	103⅞	105	Tide Water Associated pfd.	666,524	$100	$1.50Q	1-2-36	$6.50	87	64½	65¼	23⅛
28½	14⅜	7,400	27⅞	26¼	27⅛	Union Oil of California	4,386,070	$25	25cQ	2-10-36	1.00	20½	11½	23⅜	8½
31⅝	20¼	2,300	30	29	29	Union Tank Car Co.	1,200,000	N.P.	30cQ	3-2-36	1.20	25⅜	15⅝	22⅜	10½
4⅝	1	700	3⅞	3½	3½	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforsheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935-36 High	1935-36 Low	Week ended Feb. 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
16	3¾	3,800	15	13¼	13¾	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	3¾	½	1½	⅛
50	30½	200	45	45	45	Buckeye Pipe Line Co.	200,000	$50	75cQ	3-14-36	$3.00	38	26	29¾	25
4⅛	1⅝	6,600	4⅛	3⅝	3⅞	Carib Syndicate	799,020	25c	....	.....	....	5½	1½	7⅜	⅛
157	115	250	124	122	123	Chesebrough Mfg. Co.	120,000	$25	$1Q†	3-31-36	6.50	150	116	129	71
7⅜	¾	109,500	5¾	5	5¼	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1⅛
3⅞	½	42,300	3⅞	2⅞	3⅝	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	⅛
4⅛	¼	13,600	3¼	2¾	2¾	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅜
34¾	10	8,700	31⅞	30	30½	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	14⅜	9⅝	12	4⅜
11	4	900	9⅞	9¾	9⅞	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	7½	4⅛	8	2⅛
3¾	¾	1,800	3⅝	3	3½	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
44	33¼	100	43	43	43	Eureka Pipe Line	50,000	$50	$1Q	2-1-36	4.00	37	30	41¾	20
87½	50¼	14,700	85½	80	84	Gulf Oil Corp.	4,538,101	$25	25c	4-1-36	....	76¾	49¾	62	24
73¾	44	6,900	70¾	68	68½	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	4-1-36	1.25	49½	33¼	105½	40
24½	15⅜	11,400	24	23⅛	23⅝	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-2-35	1.25	17⅞	12⅝	15⅞	6½
9¼	3⅝	300	8	7¾	8	Indiana Pipe Line	300,000	$10	15cSA†	11-15-35	.35	6⅞	3⅝	8	3⅛
39⅜	28	9,300	38¼	37	37⅝	International Petroleum	14,247,088	N.P.	$1.25†‡	12-2-35	2.50	33⅜	19⅜	23½	8⅜
14⅛	4⅜	9,200	13¼	12⅜	13	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	5	2⅛	2¼	⅞
9⅝	3½	1,900	9⅝	9	9¼	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1¼
14	4½	3,100	13⅛	12½	12⅞	Lone Star Gas	5,382,723	N.P.	20cSA	1-15-36	.30	8⅜	4¼	11⅞	4⅜
8⅜	4⅛	3,600	7½	7	7½	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.90	5½	4	6½	2⅛
23	11¾	2,200	21⅞	20¾	21½	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-36	1.25	18⅛	13⅛	20	10
15¾	6¾	900	13½	12⅞	13	National Transit	509,000	$12.50	35cSA	4-15-36	.75	9½	7	10	5½
4½	2	1,000	3⅝	3⅜	3⅜	New Bradford Oil	1,445,202	$5	10cSA	9-16-35	.20	2½	1¾	2⅛	½
6⅜	1	9,100	5⅜	4⅞	5⅝	New Mexico and Arizona	1,000,000	$1	....	.....	....	2¾	1	1⅞	½
6¼	3	100	5⅞	5⅜	5⅞	New York Transit	100,000	$5	15cSA	4-15-35	.30	4¾	3	4⅞	3
9¼	5¼	900	8	7½	7⅞	Northern Pipe Line	120,000	$10	25cSA	2-2-36	.50	7	4⅝	6⅛	4¼
6⅛	1¼	30,800	5⅛	4⅝	4⅞	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3⅜	½
3⅛	⅝	700	2¾	2¾	2¾	Ryan Consolidated	296,931	N.P.	....	.. ..	....	3⅜	⅞	4¼	⅝
10	5½	1,900	9	8⅝	8¾	Salt Creek Producers	1,496,859	$10	40cSA	12-31-35	1.20	7⅞	5½	9¼	3½
36½	21⅝	3,000	36½	34⅞	36½	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	26½	17½	22⅛	11
7⅞	3⅞	700	6	5⅛	6	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5½	3½	6	2⅛
50	44¼	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q†	12-31-35	5.00	47	41	43	24½
24	18	2,700	22	21	21⅛	Standard Oil of Kentucky	2,604,790	$10	25cQ†	3-16-36	1.25	18⅜	14⅝	19¼	8⅜
14⅝	7¾	600	12¾	12¼	12¼	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	16⅞	8¼	20½	11
27⅜	11½	4,300	27¼	25	26½	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
4¼	⅞	10,300	3¾	3⅜	3⅝	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	⅟₁₆	1½	⅛
9⅜	5	4,100	9⅝	9	9⅛	Texon Oil & Land	336,028	N.P.	15cQ	3-31-36	.60	11	4⅜	13¾	6¼
7½	2½	21,600	7	6⅛	6⅜	Texas Gulf Producing Co.	888,058	N.P.	....	12-29-34	....	7	3⅜	6½	3⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

PERSONAL

GLENVER McCONNELL, chief mechanical engineer, Shell Petroleum Corporation, Tulsa, is the president of the recently organized Engineers Club of Tulsa and under his guidance this society has grown rapidly and now assumes an important place in the engineering circles of this section of Oklahoma, its monthly meetings for discussion of problems being very interesting.

J. HAROLD ADKINSON, who has served as secretary for the Mid-Continent Petroleum Division of the A.S.M.E. in Tulsa for several years past has resigned, effective March 1, to join the engineering organization of Dowell Incorporated, and will be stationed in Tulsa and Seminole districts, Oklahoma.

R. R. (BOB) THOMPSON, chief geologist for the Danciger Oil & Refining Company at Fort Worth, was a business visitor to Houston the past week.

F. S. WILLIAMS, formerly geologist in the McPherson, Kans., office of W. C. McBride, Inc., has been transferred to the Tulsa office of the company to take charge of the geological work there. EDWARD A. KOESTER, formerly geologist for Darby Petroleum Corporation, Wichita, Kans., is now with W. C. McBride, Inc., in the McPherson, Kans., office.

W. L. STRATTON, director of production for the Standard Oil Company of Louisiana for the past 10 years, resigned on March 1. Mr. Stratton has been a prominent figure in the oil industry in Shreveport and the Southwest for the past 13 years. Last year he was elected vice president of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association.

M. E. MAGGART and daughter are spending a vacation in Havana, Cuba, and other resorts. Mr. Maggart is in charge of publicity for the Williamsport Wire Rope Company.

H. H. HEWETSON, of the sales department of Imperial Oil, Ltd., Toronto, Canada, left New York City February 29 on the Santa Maria of the Grace line. He will visit the properties of the company at Talara.

CHARLES F. ROESER of Fort Worth, president of the Independent Petroleum Association of America, was the principal speaker at a luncheon given in Houston the past week by Houston members of the association.

ORVILLE HARDEN, vice president and director of the Standard Oil Company (New Jersey), has left the New York headquarters of the company on an inspection trip of the South American properties of the company.

CRAIG F. CULLINAN of Houston, president of the American Petroleum Company, was elected president of the American Republic Corporation at a stockholders meeting held in Wilmington, Del. He succeeds his father, J. S. CULLINAN.

J. W. FITZGERALD, of Tyler, Tex., has been named legal advisor to the Federal Tender Board at Kilgore.

A. L. ELLSWORTH, president of the British American Oil Company, Ltd., has returned to Toronto, Canada, from a trip to New York City.

JOHN BELL, petroleum engineer with the Humble Oil & Refining Company, Freer, Tex., was married to MISS ALMA DUNBAR, of Refugio, Tex., Monday, February 24.

W. D. LANE, assistant superintendent for the Big Lake Oil Company, Texon, has been transferred to Freer, in Southwest Texas, where the company is drilling a test.

W. C. ALLISON, of Houston, Tex., independent oil operator, has opened offices at McAllen, Tex. He owns acreage in the Samfordyce field of Hidalgo and Starr Counties, Texas.

ROBERT MEEK, formerly representing the Happy Belting Company in southern Oklahoma, with headquarters at Seminole, has been moved to Odessa, Tex., to cover West Texas and New Mexico. HARRY WIRTH has been transferred from Tulsa to Oklahoma City, and E. P. HUGILL, formerly at Tulsa, has been moved to Kilgore to cover the East Texas field.

W. L. MASSEY, former deputy supervisor of the Southwest district with the Texas Railroad Commission, is now associated with E. O. BUCK, consulting petroleum engineer of Houston, Tex. Mr. Massey has had a wide experience in the oil industry, joining the Magnolia Pipe Line Company in 1921. He was then successively with Venezuelan Sun, Ltd., Sun Oil Company, and Sperry-Sun, becoming associated with the engineering department of the railroad commission in 1933.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Fred H. Hillman has been made manager of the production department of the Standard Oil Co. of California. This appointment marks the separation of the production and refining departments of the company.

Dan Roach succeeds F. H. Hillman as general superintendent of the Ohio Oil Co.'s Illinois operations. Jerry Orthwein will be his assistant.

The Bartlesville and Nowata-Chelsea areas are the busiest fields in Oklahoma. In February 216 of the 312 wells completed in the state were in those areas.

20 YEARS AGO

The Quaker Oil & Gas Co. owned by the Pure Oil Co. issues a dividend of $2,800,000 which amounts to $1,700 per share. The company operates in Oklahoma.

Retail price of gasoline in Tulsa is 23 cents per gallon; in New York from 24 to 31 cents, and in St. Louis from 19 to 21 cents. There is no tax.

Seven refining companies are preparing to install the Rittman cracking process according to a United States government bulletin.

The Cushing, Okla., field is down to 98,000 bbls. per day from a peak of over 300,000 bbls., and the Healdton pool in Oklahoma has fallen from a peak of 100,000 bbls. to 50,000 bbls. per day.

10 YEARS AGO

The Indian Territory Illuminating Oil Co. test in section 24-9-6, Seminole County, Okla., opens the Seminole pool. The test produces 40 bbls. per hour at 3,978-4,009 feet. It is not yet decided whether this is Hunton lime or Wilcox sand.

F. W. Burford of the Skelly Oil Co. has been elected vice president and manager of the Crystal Oil & Refining Co., Shreveport, La., and will make his residence in Shreveport.

E. C. Lufkin retires as chairman of the board of The Texas Co. and is succeeded by Amos L. Beaty. R. C. Holmes, senior vice president becomes president.

ERIC G. SCHROEDER of the Kibele Manufacturing Company, Dallas, Tex., is spending some time in Tulsa calling on the trade.

J. B. JOYCE, refinery engineer for the East Texas division of the Railroad Commission, Kilgore, resigned from that position, effective March 1.

J. W. ERICKSON, formerly of Kansas City, Mo., has been transferred to Odessa, Tex., to be in charge of the Gustin-Bacon Manufacturing Company's store in West Texas.

J. E. REDMAN, general sales manager, Wico Electric Company, Springfield, Mass., is spending a few days in the Mid-Continent area with L. F. SMITH, southwest district manager.

K. B. KNOWLES, geologist for the Forest Development Corporation, has been transferred from San Angelo to Abilene where the company has opened district headquarters in Texas.

A. E. BRAINARD and C. S. LAVINGTON, of the geological department of the Continental Oil Company, spoke on the "Lance Creek Oil Field, Wyoming," before the Rocky Mountain Association of Petroleum Geologists at their Denver, Colo., meeting on February 17.

A. R. WILSON, division manager of the producing department of the Texas Company, with Denver, Colo., headquarters, has been promoted to the position of assistant to the manager of the producing department (L. E. BARROWS), with headquarters at Houston, Tex., effective March 1.

J. L. LAMB, for some time assistant division manager in the southern division office of the Signal Oil Company at Los Angeles, has been appointed assistant division manager of the company's central division office and in his new position will maintain headquarters at Alameda, Calif.

PARAGRAPHS

CHARLES W. GRIMES, independent producer, Tulsa, spent the first part of last week at his new farm near Neosho, Mo.

MISS BESSY E. SCHLENKER, R.N., of Chatham, Ontario, sailed from New York on February 29 for Colombia, where she will spend two years on the nursing staff of the Tropical Oil Company at El Centro.

JACK TRENCHARD, of Whisenant & Trenchard, San Antonio, Tex., has been appointed as chairman of the Nomenclature Committee for the coming year by the San Antonio Geological Society. This committee names new oil and gas fields in Southwest Texas.

H. A. STEWART, formerly in charge of the geological and land departments of the Rocky Mountain division of the Texas Company, has been advanced to assistant division manager in charge and will assume active management of the Rocky Mountain activities of the producing department of the company. F. H. GOWER will head the land and lease department, and E. H. HUNT the geological department of the division. M. J. HEALD has been transferred from West Texas to fill the position of division superintendent. All will have headquarters in Denver, Colo.

WAYLAND DWIGHT, land scout for the Phillips Petroleum Company, has been transferred from Amarillo, Tex., to Wichita, Kans.

R. L. BHENHAM, paleontologist, has been transferred from St. Louis, Mo., to Midland, Tex., by the Humble Oil & Refining Company.

P. E. FITZGERALD, research geologist of Dowell Incorporated, oil and gas well chemical service, is in California at the present time, but will return to his office at Tulsa shortly.

J. E. KLEIN of the Standard Oil Company of California has been appointed general superintendent of the Southern California district with offices in Los Angeles, succeeding O. O. ALLEN, who recently retired.

H. K. V. TOMPKINS, head of the land department of the Continental Oil Company, headquarters at Ponca City, Okla., and G. C. CLARK, chief geologist, were visitors at the Denver, Colo., offices of the company the past week.

JOE CROWE of the O. C. S. Company has been transferred from Kilgore, Tex., to Corpus Christi, Tex., and MELVIN DICK has been transferred from Seminole, Okla., to Kilgore to fill the vacancy made by Mr. Crowe's transfer.

IRA BRINKERHOFF, scout for the Sinclair Prairie Oil Company, is being transferred from Corpus Christi, Tex., to Midland, Tex., and LYNN HARDEN is being moved from Houston, Tex., to Corpus Christi to fill that vacancy.

M. ODA, director for Asano Bussan Kaisha, arrived in Los Angeles from Japan a few days ago on a business mission and in his survey of marketing conditions he is being assisted by J. IWAKAMI, Pacific Coast manager of the company.

E. H. SALRIN, vice president of the Tide Water Oil Company, with headquarters at Houston, Tex., is vacationing in Florida.

S. A. GERMANY, scout for the Shell Petroleum Corporation with headquarters at Tyler, was a business visitor to the company's offices at Houston the past week.

GEORGE C. GIBBONS, of Ardmore, Okla., has been named executive vice president of the Texas Division of the Mid-Continent Oil and Gas Association. He is now manager of the Ardmore Chamber of Commerce and secretary of the Southern Oklahoma Oil and Gas Association. Other officers of the Texas Division are: EUGENE McELVANEY, Dallas, secretary; AL BUCHANAN, San Antonio; D. H. BYRD, Dallas; LLOYD WHEELOCK, Corsicana; E. J. DUNIGAN, JR., Breckenridge; R. A. KING, Wichita Falls; J. C. HUNTER, Abilene; H. R. CULLEN, Houston, and PAUL W. PITZER, Breckenridge, vice presidents.

ADOLF DOVRE, district geologist with the Tide Water Oil Company, San Antonio, and president of the San Antonio Geological Society. Supporting Mr. Dovre in the society for the year will be: WILLIAM G. KANE, Ohio Mex Oil Company, vice president, and HARRY NOWLIN, Darby Petroleum Company, secretary and treasurer. The president also heads the Executive Committee consisting of the current officers, the retiring president, JOSEPH M. DAWSON, Gulf Production Company, and W. K. ESGEN, of the Humble Oil & Refining Company.

WALTER FLEET has been placed in charge of the Fleetborn Oil Company's West Texas-New Mexico district office at Midland, Tex.

From Classroom to Oil

J. F. Darby, president of three oil companies, was for years a teacher, and when he left that profession for work which ultimately was to lead him to the oil industry he was principal of the high school in Rock Island, Ill.

J. F. DARBY

Mr. Darby was born in 1872 in Odell, Ill. He graduated from Grinnell College in Iowa in 1895 and began teaching in the high school in La Grange, Ill., near Chicago, at the same time studying at the Chicago School of Law and taking occasional courses at the University of Chicago. In 1903 Mr. Darby gave up teaching and went to Muskogee, then center of land bureaus and government offices of the Indian Territory. He conducted a real estate business and served without pay on various commissions.

In 1916 Mr. Darby moved to Tulsa, where he organized the Darby Lynde Company, which dealt in oil royalties and leases. In 1921 he organized the Darby Petroleum Corporation, which now has production in Oklahoma, Kansas, Texas and New Mexico. He heads both of these companies and is president of the Western Oil Corporation, a refining organization.

Besides these and other activities Mr. Darby is a director of the Commercial National Bank of Muskogee and of the Oklahoma Natural Gas Company, Tulsa. He is an enthusiastic golfer and helped organize the Oklahoma Golf Association. He is a member of the Tulsa Country Club, Southern Hills Country Club, Muskogee Town and Country Club, Tulsa Club and Kansas City Club. He has been married 10 years. He and Mrs. Darby reside in Muskogee.

PHIL PHILLIPS, of the Phillips Petroleum Company, Bartlesville, Okla., spent several days in the Texas Panhandle during the past week.

L. W. BARBOUR, superintendent for the Sinclair Refining Company's refinery at Fort Worth, is confined in Harris Clinic in that city by an infected knee.

E. E. WHITE, consulting geologist of Huntington, W. Va., has been spending some time looking over the Young County, Texas faults, wherein he formerly worked.

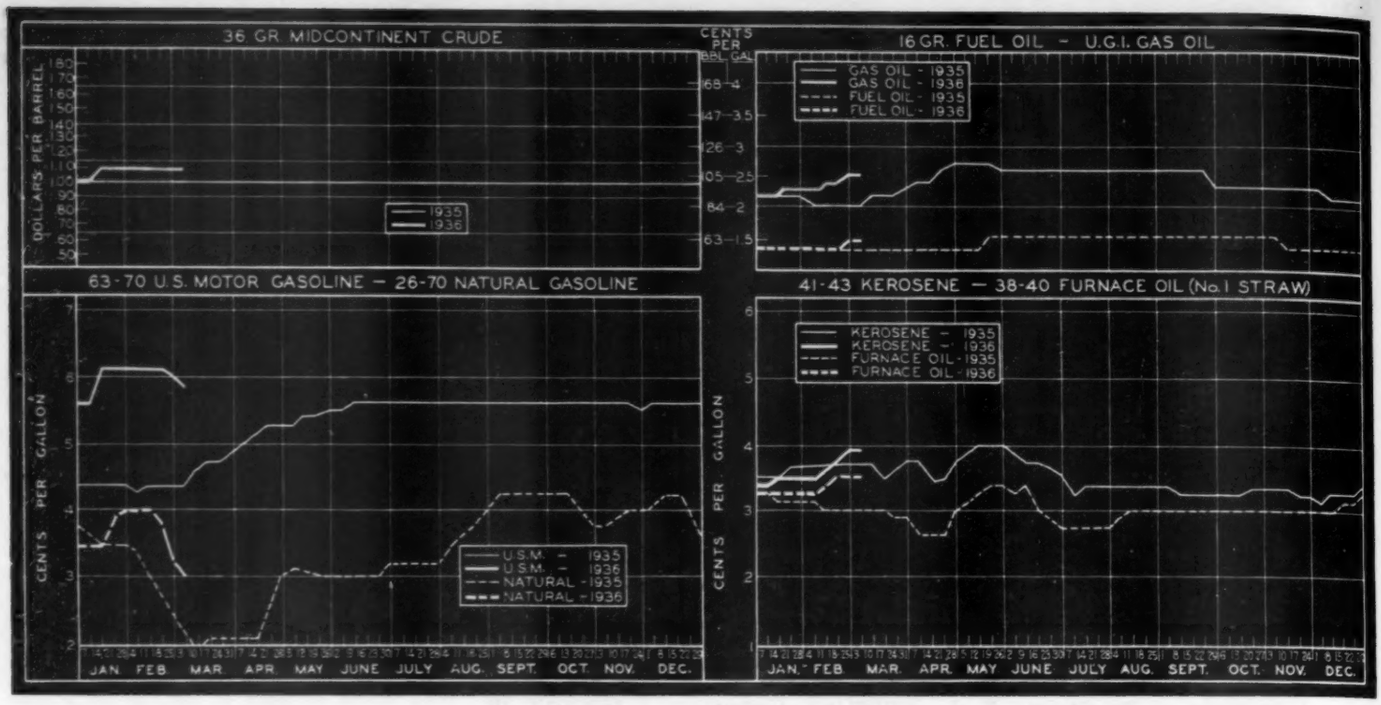
J. J. LARKIN, of Tulsa, president and general manager of the Larkin Torpedo Company, is in Odessa, Tex., supervising construction of the company's nitroglycerin plant.

H. F. DAVIES, division manager for the northern Rocky Mountain area of the California Company, has returned to Denver, Colo., headquarters from a business trip to California.

H. W. C. PROMMEL addressed the Rocky Mountain Association of Petroleum Geologists at their regular meeting in Denver, Colo., on March 2, on "The Origin of the Helium in Helium-Rich Natural Gases."

C. W. ALCORN, formerly petroleum engineer and assistant production superintendent for the Shell Petroleum Corporation at Dallas, Tex., and Tulsa, is now vice president of the Hugh Hodges Drilling Company at Oklahoma City, Okla.

E. E. KOPP, well known in the supply business in Texas and for the past 15 years with the Smith Separator Company, has resigned as division manager of Texas for that company and taken a position with the Drane Tank Company. He will have headquarters at Midland, Tex., and cover West Texas and New Mexico.



Group 3 Gasoline Market Holding Up Well as Refiners Reduce Output

By T. F. SMILEY

Evidence that no serious break in the Group 3 tankcar prices of gasoline is in prospect was disclosed this week by inquiry among individual refiners in the territory. Information obtained indicated an intention among many of the spot selling nonintegrated refiners (most of them probably) to cut their runs to stills sharply in March. Some said they were likely to run for a week or 10 days and then close for the rest of the month. This contemplated action holds true not only in the upper Mid-Continent, but in East Texas, where inventories of gasoline eligible for movement in interstate commerce were estimated to be small, with 75 per cent held by refiners who were reported to have refused to sell any of it at a reduction from the going published prices.

Looking Ahead

Many plants already are shut down. Where the owner of the closed plant has his own crude production he usually sells his oil to some large buyer. If he has no crude production he reasons he is better off operating part of the time and selling his product at a profit than he would be operating all the time and selling at a loss. Continuance of milder weather will improve the demand for motor fuel, and in a few weeks the season of heavy consumption will open. Those refiners who close their plants now because of the absence of demand do it in recognition of the fact that wrecking prices by dumping distress stocks would not only be an unprofitable performance, but it would be the very thing sure to rob them and other refiners of profitable business a little later.

Sunshine and, in southern areas, highways alive again with cars went a long way this week toward quieting uneasiness about the gasoline market. Accustomed as they are to a sprinkling of flies in their ointment, refiners paid little attention to a medium-sized one mired in it now, to-wit: the threat of floods presented by enormous accumulations of snow in the north. Nobody is disposed to deny it would be unfortunate if the gasoline market were to emerge from blizzards which ruined motor travel only to find itself blocked again by mud and water-covered roads.

But even those with a penchant for lingering over the dark side of things saw nothing in the flood threat to get panicky over. Floods are a sort of annual event anyway, and the fact that there are more tons of snow than usual to be disposed of is not seen as of disastrous portent. It is pointed out that the present deposit of snow might easily disappear without swelling Mississippi Valley streams to even the high-water marks reached last year. It's just a matter of weather and the speed with which the snow melts.

Reports from southern Wisconsin are to the effect that the great blanket of snow overlying that region has subsided 2 feet without raising streams. The explanation is that before severe freezing weather arrived the ground had a thick coating of snow. The result was the frost did not strike deep into the earth, which now is able to absorb the snow-water as fast as it forms. It is believed probable other areas are in similar condition, thus lessening danger of freshets.

Naturals at New Lows

Natural gasoline was exploring new low ground for the year. Manufacturers have begun moving substantial volumes to storage, easing the situation a little. Some movement of 12-pound material was reported, the sales being a result of the fact that this grade and the third-grade refinery gasoline are now quoted at about the same price, making it possible for the natural to compete with the other. In heading downward at this season the naturals are following the annual pattern, but there is no indication that they will reach the levels touched last year.

Kerosene had no difficulty in retaining its place at the head of the list of refinery products in point of demand, scarcity and stiffening prices. One major refinery was reported to have sold its output for the next six months.

The whole lubricant list was firm, with steam-refined stocks up a half cent. Fuel oils were in excellent demand, though not so strong as in recent weeks. Gas oil was steady. Wax was in good position, with buyers reporting difficulty in getting material.

Refined Oil Market Barometer

Return of motoring weather in some areas has started a mild revival of gasoline demand. Consumption must rise in much more pronounced fashion to stiffen prices, which are still soft. Disposition among refiners to cut their runs or close their plants temporarily, instead of dumping distress material, is an encouraging sign. Tractor fuels and kerosene seem headed for an unusually strong spring market.

MID-CONTINENT. Gasoline unsteady. Naturals weak. Kerosene and tractor fuel strong.

EAST COAST. Gasoline slightly firmer. Furnace oils and heavy fuels in satisfactory position.

GULF COAST. Gasoline weak. Kerosene steadier.

PENNSYLVANIA. Higher-octane gasolines and neutrals off. Fuel oil kerosene strong.

CALIFORNIA. Gasoline soft. Market weak.

CHICAGO. Gasoline demand increasing moderately. Fuel oils steady.

Increased Demand for Gasoline in East; Furnace Oil Movement Still Heavy

By C. O. WILLSON

NEW YORK, Mar. 2.—Milder weather is bringing an increase in demand for motor fuels both at refineries and service stations and sellers generally are feeling better than they did last month. At the same time the movement of furnace oils and several other grades of fuel oil continues heavy. During the long period of low temperatures some refiners got behind in their tankcar shipments so that many terminal points and bulk stations still have very little material on hand. One sales manager said last week it would require another two weeks before distributors and jobbers recover from the period of peak demand for fuel.

Prices generally on all products are unchanged. Tankcar prices on furnace oils range from 4½ cents for No. 4 to 5¼ cents for No. 1, with Nos. 2 and 3 bringing 4¾ cents. Some buyers have reported No. 2 is scarce at several points, and tanker material of this grade is hard to find at 3⅝ cents at the Gulf. Gas oil and diesel oil (shore plants) are firm at 4¾ cents. Gas companies have increased their purchases of UGI material. The bulk of this business is based on contracts, but these provide for maximum and minimum amounts and buyers have been taking the former in some cases due to the heavy demand for gas.

Heavier Fuels

The heavier fuels are also unchanged in price with sellers reporting "fair" to "strong" demand. In the domestic end, No. 5 is quoted at $1.25 and No. 6, $1.05. Bunker C is generally considered strong by both buyers and sellers at $1.05 with diesel oil $1.65 per barrel. Some of the sellers in new contracts since the first of the year provided for a top of $1.15 or higher per barrel on these agreements which generally extend to the end of the year.

Shipping interests have assumed this meant an advance to $1.15 in the spot price and there have been complaints, including the threat to bring the matter to the attention of government officials. It is claimed the higher prices are working an undue hardship on American shipping interests. These concerns during the low crude price period previous to the fall of 1933 became accustomed to Bunker C prices under $1 per barrel, the quotations going as low, in fact, as 65 cents, and they now consider anything above $1 as unjustified.

Their contention that prices on Bunker C fuels should be kept low finds some supporters among the oil companies, who feel that due to conditions in the shipping business too large advances in fuel oil prices will result in a turn to substitute fuels. In this connection data are presented to show that previous to the imposition of the 21-cent per barrel import tax on fuel oil in 1932, Atlantic seaboard refiners and water terminal operators to a large extent depended on South America and Mexico for their heavy fuel supplies. Either the crude was imported into this country and refined with a large percentage yield of fuel oil obtained or the fuel was brought to terminals direct from Netherland West Indies and Mexican refineries. These oils can still be brought in under bond for bunkering ships engaged in foreign trade without payment of duty, but this arrangement is not satisfactory from several angles.

One factor familiar with this situation foresees a more serious shortage of the heavy fuels for the seaboard trade unless arrangements are made to bring in outside supplies to supplement those available from domestic operation. He points out the large gain in gasoline demand places more and more emphasis on high yields of gasoline in refinery operations. Most of the new crude supplies in United States are of high gravity, and this fact, coupled with the expansion in cracking facilities, tends to reduce the quantities of bunker fuels available both at the Gulf and along the Atlantic seaboard.

The expanding demand for furnace oils and kerosene in the domestic markets is another angle of this situation. Briefly summarized, the problem centers around the question as to whether refinery operations in the future can be balanced to the point where there will be sufficient residual products at prices which can compete with coal and other cheap fuels.

In the local motor fuel market the principal subject of discussion the past few days has been the action of Socony-Vacuum Oil Co., Inc., and other major companies in widening the margins to dealers by lowering both the posted dealer and advancing the retail prices. The retail prices were first advanced one-half cent without increasing the posted dealer and today the latter were reduced at some points. The net result is that the undivided accounts will receive 5 cents in Metropolitan New York, 4.8 cents in Connecticut and 5.5 cents in the eastern part of Long Island. The divided accounts are one-half cent less at most points.

The wider margins are being granted in response to demands from the dealers who claim they are needed to cover cost of operation. There have been threats, it is said, by dealers handling major company products to take on unbranded grades and cut retail prices unless they are given the wider margins. There has been considerable retail price cutting in Brooklyn and at scattered points in other parts of Metropolitan New York.

Question of Margins

Whether wide margins to dealers and jobbers are a cause or a cure of price cutting has always been a moot question in marketing. Over the past few months there has been a movement which has the support of many jobbers as well as refiners calling for reduced margins in marketing with the feeling such action if continued over a period of time will cure many of the price troubles of the marketing branch of the industry.

Aside from this development there were no important changes in the motor fuel market over the past week.

There are plenty of observers in the trade who are pointing to the rapid increases in gasoline storage in this and other sections of the country. An unconfirmed report over the past week was to the effect this situation was being reflected in price concessions at the Gulf for coastwise movement. They also point to the Mid-Continent situation where some price cutting has been reported in tankcar sales. So far, it can be accurately stated, the major factors in this section are holding to the tankcar schedules in effect over the past month. In New York harbor the prices are 7 cents for middle octane and 7¼ cents for 65 octane and above.

There are reports that all factors in the steam refined market have not met the recent advances. Certain companies last month were sold up on both Pennsylvania and western stocks and advanced their prices as much as 2 cents, so they were out of the spot market. Supplies appeared limited at that time and the market was generally tight. More material is now available, although prices as quoted by the largest manufacturers are unchanged from last week. Bright stocks are slow with the neutral oils freely offered.

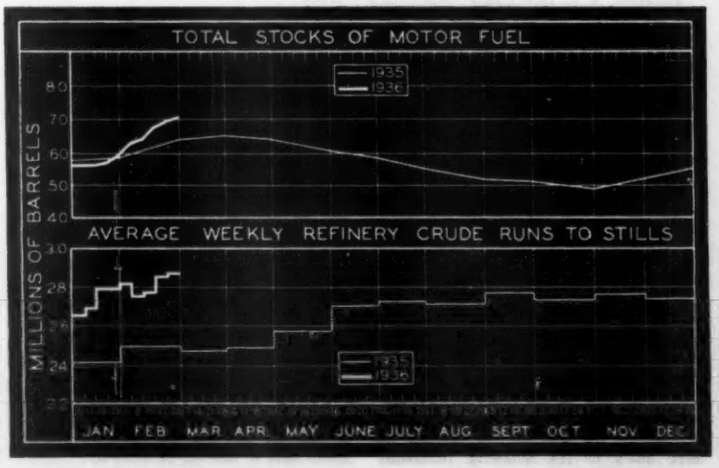
Reported prices point to a general advance in crude scale wax to a low of 2.5 cents in both domestic and export sales. The crude scale grades are stronger than the refined grades. One sizeable order for refined wax for export movement was reported last week.

A. P. I. Weekly Refinery Statistics

Week Ending February 29, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	515,000	17,055,000	5,859,000
Appalachian	94.8	94,000	2,873,000	693,000
Indiana, Illinois, Kentucky	95.9	379,000	11,129,000	2,343,000
Oklahoma, Kansas, Missouri	84.8	256,000	7,967,000	2,637,000
Inland Texas	48.5	88,000	1,826,000	1,345,000
Texas Gulf	96.8	621,000	9,392,000	8,049,000
Louisiana Gulf	96.4	135,000	1,728,000	2,530,000
North Louisiana and Arkansas	90.0	38,000	401,000	429,000
Rocky Mountains	61.9	40,000	1,517,000	702,000
California	92.6	508,000	13,384,000	70,011,000
Total reported	89.6	2,674,000	67,272,000	94,598,000
Estimated unreported	.....	196,000	4,312,000	1,258,000
*Estimated total	.....	2,870,000	71,584,000	95,856,000
*Estimated total previous week	.....	2,850,000	69,353,000	96,586,000
†February 28, 1935	.....	2,529,000	64,888,000	101,085,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of March 3, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Chicago	14.5	16.5	4.0	9.5
Decatur, Ill.	16.0	18.0	4.0	9.5
E. St. Louis	15.2	17.2	4.0	9.5
Joliet	16.0	16.5	4.0	9.5
Peoria	16.0	18.0	4.0	9.5
Quincy	15.5	17.5	4.0	8.0
Davenport, Ia.	16.0	(†)	4.0	9.5
Des Moines	15.5	(†)	4.0	9.5
Mason City	16.2	(†)	4.0	10.0
Sioux City	16.0	(†)	4.0	9.5
Duluth, Minn.	16.5	18.5	4.0	10.6
Mankato	16.4	18.4	4.0	10.2
Minneapolis	16.4	18.4	4.0	10.2
LaCrosse, Wis.	17.4	19.4	5.0	10.2
Green Bay	17.7	19.7	5.0	9.0
Milwaukee	15.5	17.5	5.0	10.1
Madison	17.4	19.4	5.0	10.2
Detroit, Mich.	14.0	16.0	4.0	8.0
Grand Rapids	16.4	18.4	4.0	8.0
Saginaw	16.6	18.6	4.0	9.2
Evansville, Ind.	17.7	19.7	5.0	10.2
Indianapolis	17.9	19.9	5.0	9.0
South Bend	18.1	20.1	5.0	8.0
Fargo, N. Dak.	17.4	19.4	4.0	11.2
Huron, S. Dak.	17.9	19.9	5.0	8.5
Sioux Falls	17.4	19.4	5.0	8.0
Kans. City, Mo.*	15.4	17.4	4.0	8.0
Springfield	15.1	17.1	4.0	8.9
St. Louis	15.7	17.7	4.0	9.5
St. Joseph*	15.4	17.4	4.0	8.2
Wichita, Kans.	14.9	16.9	4.0	6.8
Bartlesville, Ok.	17.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 3½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective February 10, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons or more, 7.25 cents; No. 3. (32-26 zero), less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents; No. 4 (12-16 zero), less than 400 gallons, 7.5 cents; 400 gallons or more, 6.5 cents, viscosity of No. 4, 85° and 100° F.; No. 5, less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21.5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	22.0	24.0	6.0	17.5
Billings	20.5	23.5	6.0	16.5
Helena	22.5	24.5	6.0	17.5
Great Falls	21.5	23.5	6.0	17.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23 0	25 0	6.0	18 0
Boise	22 5	24.5	6.0	18.0
Albu'que, N. M.	21.0	23.0	*6.5	13 0

*One-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	23.0	7.0	*14.5
Augusta	20.5	22.5	7.0	*14.0
Macon	20.5	22.5	7.0	*14.5
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	19.0	20.0	8.0	11.0
Montgomery	23.0	24.0	9.0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21.5	7.0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	12.0
Miami	19.5	21.5	8.0	13.5
Pensacola	21.5	23.5	8.0	12.0
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	20.0	22.0	6.0	11.0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	10.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	14.0	16.0	4.0	11.5
Los Angeles	11.5	13.5	4.0	10.5
Fresno, Calif.	14.5	16.5	4.0	9.0
Phoenix, Ariz.	18.0	20.0	6.0	‡16.0
Reno, Nev.	17.0	19.0	5.0	13.0
Portland, Ore.	16.5	18.5	6.0	13.5
Seattle, Wash.	16.5	18.5	6.0	13.5
Tacoma	16.5	18.5	6.0	13.5
Spokane	19.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4 cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	14.3	17.8	4.0	9.0
Newark	14.3	17.8	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	8.5
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	13.0	16.5	3.0	9.0
Danville, Va.	17.5	21.0	6.0	12.9
Norfolk	16.0	19.5	6.0	11.2
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W.Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19.5	5.0	12.2
Charlotte, N. C.	18.7	22.2	7.0	12.9
Hickory	19.0	22.5	7.0	13.1
Mt. Airy	19.0	22.5	7.0	13.2
Raleigh	18 4	21.9	7.0	12.7
Salisbury	18.8	22.3	7.0	13.0
Charleston, S. C.	17.0	20.5	7.0	11.2
Columbia	18.3	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	18.4	20.4	6.0	10.1
McCook	19.1	21.1	6.0	9.0
Norfolk	18.8	20.8	6.0	10.5
North Platte	19.2	21.2	6.0	10.9
Scottsbluff	19.9	21.9	6.0	11.0

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 2½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	17.0	19.0	5.0	9.5
Pittsburgh	17.5	17.5	5.0	10.0
Allentown	17.0	19.0	5.0	9.5
Erie	16.5	16.5	5.0	9.0
Scranton	17.5	16.75	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	19.0	5.0	10.0
Wilmington	16.5	18.5	5.0	9.5
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	13.0	16.5	4.0	7.75
New Haven	14.5	17.0	4.0	7.5
Providence, R. I.	11.5	15.0	3.0	7.25

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
N. Orleans, La.	18.0	21.5	‡9.0	12.0
Baton Rouge	17.5	21.0	†7.0	11.5
Alexandria	18.5	22.0	†*8.0	10.5
Lafayette	19.0	22.5	‡*8.0	12.5
Lake Charles	19.0	22.5	†*8.0	10.0
Shreveport	18.0	20.5	†7.0	9.0
Knoxville, Tenn.	21.0	24.5	8.0	14.0
Memphis	19.0	22.5	8.0	9.5
Chattanooga	20.5	24.0	8.0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Post deal	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Albany, N. Y.	14 0	17.5	5.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	14.2	19.2	5.0	7.25
Staten Island	14.2	19.2	5.0	7.25
Qu'ns & Br'klyn	14.2	19.2	5.0	7.25
Buffalo	14.5	18.0	5.0	8.25
Rochester	14 5	18.0	5.0	8.25
Syracuse	14.5	18.0	5.0	8.75
Boston, Mass.	12.5	16.0	4.0	7.5
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	14.5	18.0	5.0	8.0
Burlington, Vt.	17.0	20.5	5.0	8.75
Hartford, Conn.	14.5	18.0	4.0	7.0

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	13 5	17.0	5.0	8.0
Fort Worth	13.5	17.0	5.0	8.0
Houston	15.0	19.0	5.0	8.0
San Antonio	15.0	19.0	5.0	8.0
El Paso	16.0	20.0	5.0	10.0
Muskogee, Ok.	15.0	19.0	5.0	7.0
Okla. City	15.0	19.0	5.0	8.0
Tulsa	15.0	19.0	5.0	8.0
Ft. Smith, Ark.	15 5	19.0	5.0	8.0
Little Rock	18.0	21.5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	14.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	17.5	19.5	6.0	*13.5

*Includes state tax of 1 cent.

Canada*

Imperial 2-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	30.8	33.8	7.0	23.3
Winnipeg, Man.	29.2	32.2	7.0	20.7
Regina, Sask.	30.5	33.5	7.0	23.0
Saskatoon, Sask.	33.3	36.3	7.0	24.1
Edmonton, Alta.	32.7	35.7	7.0	24.3
Calgary, Alta	30.0	33.0	7.0	21.5
Vancouver, B. C.	26.0	29.0	7.0	24.9
Montreal, Que.	19.5	22.0	6.0	17.5
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. (Indiana) February 19 advanced tank-wagon kerosene 1 cent in Sioux Falls.

Standard Oil Co. of New Jersey February 20 advanced tank-wagon gasoline .5 cent and station gasoline 1 cent in Newark.

Socony-Vacuum Oil Co., Inc., March 2 reduced posted dealer gasoline price 1 cent in Metropolitan New York.

Magnolia Petroleum Co. February 24 reduced tank-wagon gasoline .5 cent and station gasoline 1 cent in Fort Worth and Dallas.

Standard Oil Co. of California March 3 reduced gasoline prices .5 cent to 3 cents at various Pacific Coast points.

Rule 37 Argued Before Three-Judge Court

HOUSTON, Tex., Mar. 2.—An attack on Rule 37 of the Railroad Commission, restricting spacing of wells in the East Texas field, was made Saturday before a three-judge federal court. The suit was that of J. O. Whittington against the Railroad Commission.

Prior to taking up the Whittington suit the court took under advisement attacks on the Texas gas conservation law made in the suits of Henderson Co. and Portland Gasoline Co.

Attorneys for Whittington claimed the Railroad Commission refused to grant him permission to drill a well. Whittington obtained a temporary injunction in the federal court at Tyler restraining the commission from interfering. Under this injunction, Whittington began to drill the well. Stanolind Oil & Gas Co. and Arkansas Fuel Co., which owned leases of adjacent property, intervened and asked that the injunction be set aside. The injunction was vacated and the case was brought before the three-judge court here.

Attorneys for the state filed a motion to dismiss on the ground there was not only no substantial federal question involved but that Whittington, in previously invoking Rule 37 against another party, is estopped from attacking it.

The court was composed of U. S. Circuit Judge J. C. Hutchinson and Federal District Judges Robert J. McMillan of San Antonio and T. M. Kennerly of Houston.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of March 3, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
Below 63 octane	.05	.05½
63-70 octane	.05⅞	.06⅛
60-62 400 grade:		
Below 63 octane	.05	.05⅛
63-70 octane	.05⅞	.06⅛
64-66 375	.05⅛	.05⅝
68-70 360	.05¼	.05½

NORTH TEXAS—

U. S. Motor grades:		
Below 63 octane	.05	.05⅛
63-70 octane	.05⅞	.06⅛
60-62 400	.05	.05⅛
64-66 375	.05⅛	.05⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
Below 63 octane	.05⅛	.05⅝
63-70 octane	.06⅝	.06⅞
60-62 400	.05⅞	.06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
Below 63 octane	.05⅛	.05⅝
63-70 octane	.06⅝	.06⅞

CHICAGO (based on Group 3)—

U. S. Motor grades:		
Below 63 octane	.05	.05⅛
63-70 octane	.05⅞	.06⅛
60-62 400	.05	.05⅛
64-66 375	.05⅛	.05⅝
68-70 360	.05¼	.05½

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅝
60-64.9 octane	.07⅛
65-70 octane	.07⅝
64-66 375	.05⅞
68-70 350	.06⅛

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.04	.05
58-60 400	.05	.06

EAST COAST—

U. S. Motor, below 60 octane:	
*New York (Bayonne)	.06⅝
Baltimore	.06⅞
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.07
Philadelphia	.07
Boston	.07
Baltimore	.06⅞
Charleston, S. C.	.06⅝
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07⅛
Philadelphia	.07⅛
Boston	.07⅛
Baltimore	.07
Charleston, S. C.	.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¼	.05⅝
60-64.9 octane	.05⅛	.05⅝
65 octane and higher		.05⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03	.03⅝
Grade 18-55	.03⅝	.04
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.04⅛	.04⅝
*12 lb. v.p. (max.)	.04⅝	.05

*Nominal.

NORTH TEXAS—

Grade 26-70	.03	.03⅛
Grade 18-55	.03⅛	.03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅜

CALIFORNIA—

75-85 375-390	.04⅝	.05½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-560 e.p.	.03⅞
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04¼
42-44	.04	.04⅜

NORTH TEXAS—

41-43	.03⅝	.04⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04¼

PENNSYLVANIA (inland refineries)—

45	.05¼
46	.05⅜
47	.05½

CHICAGO (based on Group 3)—

41-43	.03⅝	.04
42-44	.04	.04⅛

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.05¼

GULF COAST (domestic)—

41-43	.04⅛	.04⅛

Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅝	.03½
No. 2 dark, 32-36	.03¼	.03⅝
No. 3, 28-32	.03½	.03¾
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03½	.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03⅞
No. 3, 28-32	.03⅝	.03½

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅝	.03⅝
No. 2 dark, 32-36	.03¼	.03⅝
No. 3, zero to 15, 28-32	.03¼	.03⅝
No. 3, 15 and above, 28-32	.02⅝	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.05¼
*No. 2	.04⅝
*No. 4	.04⅛

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28	.92½	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5	.70	.75
No. 6	.65	.70
Below 18 fuel oil, industrial	.62½	.67½

NORTH TEXAS—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28	.92½	1.00
No. 5	.70	.75
No. 6	.65	.70
Below 18 fuel oil, industrial	.62½	.67½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅞	.03
10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5, 15-22	.72½	.75
No. 6, 10-15	.62½	.67½

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04⅝

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.10	1.25
27 plus diesel	1.05	1.20
27 plus diesel (bunkers)	1.15	1.25
12-16 (bunkers at tidewater)	.82	.92
10-16 (cargo lots)	.80	.89
12-17 (tankcars)	.65	.95
San Joaquin Valley:		
10-18 (tankcars)	.60	.75
San Francisco:		
27 plus diesel, per bbl.		1.25
27 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅝
28-30 diesel (bunkers)		1.70
Bunkers C (bulk cargoes)		.75
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04½
28-30 diesel (lighterage 6¼ plus per bbl.)	1.65
28-30 diesel (tankers)	.04½
*Bunker C (to ocean-going ships in N. Y. harbor)	1.05
Industrial fuel (tankcars)	.04¼

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.20
150-160 D, 0-10	.17
150-160 D, 15-25	.16⅛
150-160 E, 15-25	.16
100-110 D, 0-10	.15⅝
Steam refined:	
630 green (treated)	.10½
600 light green (untreated)	.09
600 dark green (untreated)	.06½ .07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.22 .22½
15 pour test	.21 .21½
20 pour test	.20 .20½
25 pour test	.19 .19½
Steam refined:	
600	.11 .11½
650	.12½ .13
600 Pennsylvania flash	.13 .13½
630 flash	.17½ .18
600 Warren E, filtered	.14 .14½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.10
180-3	.11⅜
180-4	.10⅝
200-3	.11⅜
200-4	.11½
250-3	.13⅜
250-4	.13¼
280-3	.14⅜
280-4	.14
300-3½	.15½
400-3½	.16
100-2 paraffin oil	.05⅜
15-20 Cold Test:	
200-3	.10⅜
200-4	.10½
240-3	.12⅜
240-4	.12½
280-3	.13⅜
280-4	.13

GULF COAST—

Pale Oils:		
200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10
Red Oils:		
200-5-6	.07	.07½
300-5-6	.07½	.07⅝
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.06½	.06⅝
200-2½-3	.06⅝	.07
300-3-3½	.07	.07½
400-3-4	.09	.09½
450-3-4	.09⅝	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5	.06½	.06⅝
300-5-6	.06⅝	.07
350-5-6	.07	.07½
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.08⅝
600-5-6½	.09	.09½
700-6½ plus	.09½	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 70° F., color, 400-405 flash:		
Zero pour test	.20	.20½
10 pour test	.19	.19⅜
15 pour test	.18½	.19
25 pour test	.17½	.18
180 vis. at 70° F., 3 color:		
25 pour test	.20½	.21
200 vis. at 70° F., 3 color:		
Zero pour test	.24	.24½
10 pour test	.23	.23½
15 pour test	.22½	.23
25 pour test	.21½	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0245	.0250
124-126 (a.m.p.) w.c. scale	.0250	.0255

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅝	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06⅞
Snow white	.07⅜	.07⅝
Cream	.05⅝	.05⅞

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅜	.05½
60-62 400		.05⅛
61-63 390		.05⅝
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04½
55-65 octane	.04¼	.04½
65-67 octane	.04½	.04⅝
67-69 octane	.04⅝	.05
Above 69 octane	.05	.05⅛
58-60 400 endpoint	.05⅛	.05⅝

KEROSENE

GULF COAST—

41-43 prime white	.03⅜
41-43 water white	.04
44 water white	.04¼

LOS ANGELES—

41-43 water white	.04⅛	.04⅜

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder Stocks:		
600 Warren E		.20½
600 S.R., unfiltered	.17	.17½
650 S.R. unfiltered	.18	.18½
600 flash S.R.	.19	.19½
630 flash S.R.		.24
Bright Stocks:		
8 color		.26
6½ plus color in dilution		.25½

NEUTRAL OIL

200-3 color	.28	.28½
150-3 color	.24	.24½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0400
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0240	.0250
124-126 y.s.	.0240	.0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.28
Fraanie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont.* (Jan. 29, 1936)	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 20, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont.	1.25
Cat Creek, Mont.	1.28
Cut Bank, Mont. (May 23, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 38°; Wellington 35°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La.	1.00
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.35
Illinois (Jan. 9, 1936)	1.33
Princeton, Ind. (Jan. 9, 1936)	1.33
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Nov. 7, 1935)	.96
Muskegon, Mich.	1.00
Ogemaw, Mich.	1.06
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.33
Western Kentucky (Jan. 9, 1936)	1.28

*Posted by Pure Oil Co., Simrall Pipe Line Co. Ogemaw and West Branch, Mich., by Simrall Pipe Line Co. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$ .75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:

Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.43
Group B — Includes Titusville district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinsua districts.	2.38

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.13
Bradford Hollow, W. Va.	2.13
Kelly Creek, W. Va.	2.13

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clear naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.33
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .84

*F.o.b. ship, based on January transactions and exclusive of production and export taxes and bar dues.

Rocky Mountain Runs

Estimated daily average production in the Rocky Mountain states in the week ending February 29 follow:

WYOMING

	Bbls.
Salt Creek	16,520
Big Muddy	1,530
Badger Basin	40
Dallas Derby	560
Dutton Creek	40
Elk Basin	520
Ferris	20
Frannie	830
Grass Creek	1,980
Hamilton dome	1,000
Hudson	240
LaBarge	1,070
Lance Creek	2,540
Lost Soldier	870
Midway	50
Oregon Basin	1,910
Osage	600
Pilot Butte	20
Rock River	1,950
Poison Spider	90
Teapot	10
Total Wyoming	33,390

MONTANA

Buckley-Border	220
Cat Creek	710
Cut Bank	7,200
Kevin-Sunburst	3,400
Lake Basin	50
Pondera	840
Total Montana	12,420

COLORADO

Florence	200
Fort Collins and Wellington	350
Iles dome	2,730
Moffat	410
Orchard	50
Rangely	70
Tow Creek	170
Total Colorado	3,980

NEW MEXICO

Artesia	630
Cooper	8,500
Eunice	12,170
Hobbs	26,820
Hogback	200
Jal	3,490
Lea	890
Maljamar	1,760
Monument	1,800
Rattlesnake	770
Table Mesa	80
Total New Mexico	57,110
Total Rocky Mountain region	106,900

Charles Hoffman, land man for the Southland Royalty Co. at Fort Worth, Tex., spent several days in Houston, Tex., the past week on business.

Crude Oil Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo. 1	Central and North Texas 2	East Central Texas 3	East Central Texas 4	North Louisiana, Arkansas 5	Gray County Texas 6	Carson and Hutchinson Counties, Texas 7	Conroe, Texas 8	West Texas and Lea County, New Mexico 9	Gulf Coast, Texas and Louisiana 10	Anahuac and Dickinson, Texas 11	Iowa and Cameron Meadows, Texas 12
Below 20	...	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	$.84	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.86	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.88	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.90	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.92	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.94	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.96	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	.98	1.00	.88	.83	$1.34	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.00	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.02	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.04	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.06	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.08	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Column 1—Effective January 9, 1936—Companies starting schedule below 29 gravity are Stanolind, Anderson-Prichard, Bell, Barnsdall, Champlin, Continental, Deep Rock, Dickey, Eason, El Dorado, Empire, Flacon, Globe, Gypsy, Johnson, Kan-O-Tex, National, Pepper, Sunray, Texas, Tide Water, Twin State, Vickers, White Eagle. Starting below 25 gravity are Carter, Magnolia, Pure, Rock Island, Shell, Sinclair Prairie and Skelly companies.

Column 2—Effective January 9, 1936—Humble Oil & Refining Co. and adopted by all purchasers.

Column 3—Effective January 9, 1936—Humble Oil & Refining Co. and Sinclair Prairie Oil Marketing Co.

Column 4—Effective January 9, 1936—Magnolia Petroleum Co.

Column 5—Effective January 10, 1936—Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co. and Stanolind Oil and Gas Co. Magnolia, effective January 16, starting at below 29 gravity 86 cents.

Column 6—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 7—Effective January 9, 1936—Led by Humble Oil & Refining Co. Adopted by all buyers.

Column 8—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers.

Column 9—Effective January 14, 1936—Humble Oil & Refining Co. Does not include Pecos County. Effective January 14 by Texas Co.; January 16 by Magnolia Petroleum Co.; January 23 by Shell Petroleum Corp.

Column 10—Effective January 9, 1936—Led by Sun Oil Co. Adopted by all buyers. Texas Co. starts schedules at below 18 gravity 86 cents.

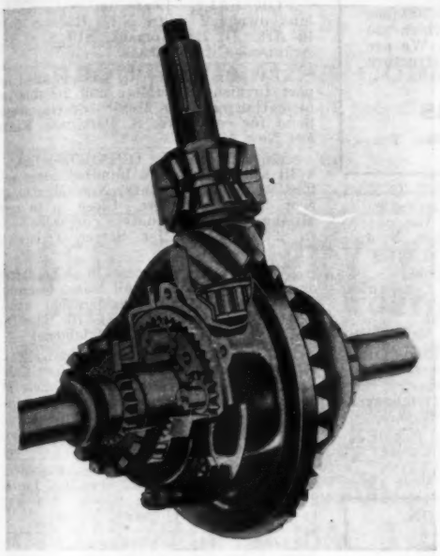
Column 11—Effective January 9, 1936—Humble Oil & Refining Co.

Column 12—Effective January 9, 1936—Magnolia Petroleum Co.

NEW OR IMPROVED EQUIPMENT

International Announces New Line of Two-Speed Trucks

International Harvester Co. has added three new models to its line of motor trucks, each of which features two-speed axle construction provid-



ing eight forward and two reverse speeds. With this construction all the advantages offered by both the high-speed and low-speed axle ratios are combined in one unit. The new models are the CS-30, CS-35, and CS-35-T.

In the past it has been necessary for truck owners requiring variable performance ability to choose between high-speed and low-speed axle ratios. The high-speed ratio would allow the truck to be driven on level roads at high speeds with consequent saving in engine wear, and gasoline and oil consumption, owing to slower engine speeds. The objection to the high-speed axle ratio was that payload had to be sacrificed if hills and rough roads were to be negotiated. If operating conditions necessitated using a low-speed axle ratio, engine wear and gas and oil consumption were increased, owing to higher engine speeds. Road speeds with the low-speed ratio naturally were sacrificed for the necessary power.

With the International two-speed rear axle models, however, the truck owner has both speed and power in one unit. The low-gear axle ratio enables heavy loads to be hauled up steep hills and over rough roads, while the high-gear allows high speeds on level roads or with light loads.

Bulletins, Booklets and Other Literature for the Trade

The current number of Bakelite Review, 12-page magazine published by Bakelite Corp., 247 Park Avenue, New York, may be obtained on request sent to the company.

"Density and Machinability in Refinery Parts" is the title of one of the articles in the current issue of Nickel Cast Iron News, published by International Nickel Co., 67 Wall Street, New York.

G. M. Akin and H. H. Brown have joined the sales department of Mid-Continent Supply Co., Fort Worth, Tex. Mr. Akin will cover the East Texas field, with headquarters at the company's store in Kilgore, and Mr. Brown the West Texas and New Mexico territory, with headquarters in Hobbs, N. Mex.

A 12-page catalog covering B.S.&B. separators, tanks, valves and other oil field equipment is sent by Black, Sivalls & Bryson, Inc., Oklahoma City, Okla.

Case oil field engines are described and pictured in an eight-page booklet offered by J. I. Case Co., Racine, Wis.

An article telling how the Phillips Petroleum Co. keeps its gasoline bulk and service stations attractive by systematic maintenance painting appears in the current issue of Du Pont Magazine.

J. H. Riddle, formerly with Atlas Supply Co., is now treasurer of Quigley Co., Inc., with his office in New York.

At its February meeting the Hartford, Conn., chapter of the American Society for Metals was addressed by Harry W. McQuaid, Republic Steel Corp. on "Carburizing."

O. A. (Nick) Carter of the Sargent Engineering Corp., formerly in charge of the Sargent store in El Dorado, Ark., and district salesman for Arkansas, East Texas and Louisiana, is now factory representative in Hutchinson, Kans.

Men Widely Known in the Equipment Field

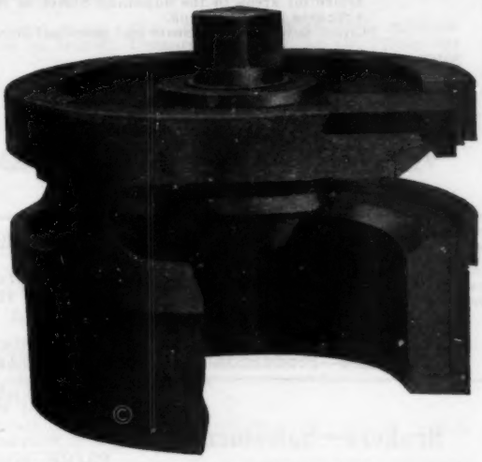
C. A. Muncey, formerly with the Oil Well Supply Co., and for the past year manufacturer's representative in the South Louisiana territory,

C. A. MUNCEY

has been appointed sales representative for the Cameron Iron Works, Inc., in South Louisiana, with headquarters in Lake Charles.

Full-Hole Slush-Pump Valve Is Streamlined for Fluid Flow

The U. S. Oil Tool Corp., Petroleum Building, Houston, Tex., is offering a slush-pump valve of full-hole type which provides a streamlined flow for fluids and is interchangeable for various makes of pumps. The valve has no stem at either top or



bottom. The seat is made with no bridge or web and there are no legs in the bottom of the valve. These details provide for a greater opening through the valve and yet permit the same wall thickness and strength of the conventional type. The increased opening decreases the velocity of the fluid at any given pump speed, and this diminishes the erosive wear on the valve and seat, besides cutting down the head losses which cause unnecessary wear on pistons and liners.

The valve is a solid forging with the under side curved to give true streamline flow through it at all velocities. The upper side is made to take a specially designed cup-type rubber insert and holds this rigidly in place to assure perfect seating at all times. The valve and the seat are hardened by heat-treating and with the valve ground to fit after hardening. The valve guide is a cage screwed onto the seat after the valve is in place.

Westinghouse Introduces New Motor for Outdoor Service

A recently completed 300-horsepower, 3,600 r.p.m., explosion-proof industrial motor represents the largest totally enclosed motor self-cooled by passing air over the exterior that Westinghouse engineers have designed to date.

The motor is protected so as to be entirely satisfactory for outdoor service. All exposed parts with the exception of shaft and blower are of cast iron, a material preferred in oil refineries because of corrosive fumes present. The motor may be used in an explosive atmosphere having gasoline vapor without introducing any additional hazard.

An effective method of ventilation was developed to keep the motor size and weight to a minimum. The dual ventilation circulates both the external and internal air through adjacent ducts in the frame, causing a rapid transfer of heat from the inside of the motor to the outside in a manner similar to that of a heat exchanger.

The external blower is of aluminum alloy with inclined curved blades and enclosed in a hood having a rounded entrance and close clearances. Changes in air velocity are avoided as much as possible and where unavoidable are made gradual by rounding entrances and exits. The internal blower has inclined blades.

CLASSIFIED ADVERTISING

For Sale—Maps

NOMENCLATURE MAP OF STATE OF TEXAS

SHOWS: Oil fields in green and gas fields in red, hand-colored.
Index for locating counties.
Index giving location of each field and official name as designated by The Nomenclature Committees of the Geological Societies in Texas. Space has been left in Index for addition of new field names.
Active oil areas in the adjoining States of New Mexico, Oklahoma, Arkansas and Louisiana.
Cities, towns, county seats and principal streams.

SIZE: 53" x 69".

Other maps.

Official nomenclature maps of KANSAS and OKLAHOMA.

E. C. JACOBSON

Phone 4-5419 530 McBirney Building, Tulsa, Oklahoma.

UP-TO-DATE OWNERSHIP MAPS all active West Texas Counties and east half Lea Co., N. M. Send $1.00 for new map of State of Texas and Eastern N. M., showing oil and gas fields.
ZINGERY OIL MAP CO.
Fair Building, Fort Worth, Texas.

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY

Paul Brown Bldg., St. Louis, Mo.

ROYALTIES and leases in all fields, producing and nonproducing, Kans., Okla., Tex. Get my list before buying. JAMES R. HAYNES, Grantville, Kans.

FREDERICK A. SANSOME AND COMPANY
522 Fifth Avenue
NEW YORK, N. Y.
Will buy, sell or quote.
Oil Interests. Wholesale Only.

PRODUCING OIL ROYALTIES
for dealers.
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

NEW OIL and Gas Structures located for you by the Quickest and Most Economical Method known. The Mid-West Development Co., 423 Cuyahoga Building, Cleveland, Ohio.

THERE'S probably more oil left in your old field than you've taken out; 2½ years' research and laboratory tests show most of such oil easily recovered. Can demonstrate. Independent producers preferred. Address Box H-133, The Oil and Gas Journal, Tulsa, Oklahoma.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

WITWER'S OIL ROYALTIES
Producing & Non-Producing.
L. H. Witwer.
P. O. Box 2453 Tulsa, Okla.
505 First Natl. Bldg., Okla. City, Okla.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

PRODUCING OIL ROYALTIES
(ALL FIELDS)
Bought, Sold and Quoted.
HENRY L. BAKER CO.
207 Van Nuys Bldg.,
Los Angeles, Calif.
Telephone Trinity 7391.

PRIME POTENTIAL ROYALTIES under and/or offsetting drilling wells. Wholesale exclusively. L. E. Morency, Hunt Building, Tulsa, Oklahoma.

I BUY AND SELL oil royalties and producing wells, East Texas field. B. A. SKIPPER, Longview, Texas.

MONTHLY PAYING ROYALTIES on which we have filed SCHEDULES A with the SEC at WASHINGTON. Quoted Dealers Exclusively.
W. E. COOK
Suite 812, Palace Bldg., Tulsa, Okla.

For Sale

2% over riding royalty
320 acres Little Lost Soldier Dome.

Standard of Wyoming
Box 1832 Casper, Wyo.

Royalties—Production

Active Drilling Wells

We sell royalty interests and working interest under our own active drilling wells in proven oil lands, and on good structures in unproven areas.

We are now drilling a 3,700-foot test in Young County, which we consider proven property. We are also drilling a splendid structure in Pecos County. Get details.

W. J. DOBBS

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VAN POOL — EAST TEXAS
Bought — Sold — Wholesale.
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PRODUCING OIL ROYALTIES
Bought (Wholesale) Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
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20 Broad St. New York.

F. W. FREEBORN ENGIN'R'G CORP.
Appraisers—Engin'rs—Operators—Mgrs.
For the Oil and Gas Industry.
Alexander Building, Tulsa, Oklahoma.
Consultants for Royalty Buyers.

Van—East Texas—Louisiana Royalties
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WILLIAM MONROE LAYTON
67 Wall St., Suite 1510 New York City.

EXTENDING FLORIDA PROGRAM
Drilling Blocks Supported by Geophysics, Geology and Financial Assistance Now Ready. Responsible Independent Operators Contact.
OIL DEVELOPMENT CO. OF FLORIDA
Groveland, Florida.

Leases—Production

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

FOR SALE—40,000 acres, oil leases in Kit Carson, Cheyenne and Kiowa Counties, Colo., 10 yr. leases 25c per acre rental, rentals paid for 1 yr. I furnish leases anywhere in Colo. or Kans. A. P. Tone Wilson, Burlington, Colorado.

Leases—Production

LEASES and Royalties near drilling wells. $10.00 per acre and up. Write or wire G. E. Fisher & Co., 518 Key Building, Oklahoma City, Oklahoma.

Oil leases or Royalty, Drilling Propositions anywhere in Central Oklahoma.
I. H. TOWNSEND
P. O. Box 603, Shawnee, Okla.

FOR SALE—Lease on 80 acres by land owner 2 miles N.E. Rodessa field in Ark. D. B. Womack, 819 S. C St., Arkansas City, Kansas.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

(AN UNUSUAL OPPORTUNITY) Will sell subject two hundred acres sec. 23-19s-35e, Lea County, New Mexico, at five dollars per acre. Close in to new Monument field. Address correspondence to 2320 N.W. 21st Street, Oklahoma City, Oklahoma.

FOR SALE—Interest in 3,500 acres or part very desirable oil leases to create drilling fund. No consideration under $20,000. Address Box H-170, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE, OIL AND MINERAL RIGHTS, under lands in Eastern Colorado, leased in solid blocks, largely by major companies; taken after seismic surveys and core drillings. Titles clear. Get ready for the next big oil play. Warren Shamburg, Burlington, Colorado.

LANDS, Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

LEASES and Royalties for sale. Rodessa, Sligo and Bethany area. Also have choice North Louisiana drilling block where opportunity is ripe. A. D. King, with Bi-State Oil Co., Inc., 538 Ricou-Brewster Building, Shreveport, Louisiana.

FOR SALE—261 acres oil and gas lease near Cheneyville, Louisiana, about 1½ miles from producing oil wells. Address Box H-140, The Oil and Gas Journal, Tulsa, Oklahoma.

Write me for oil producing properties, drlg. blocks, leases, royalties, Louisiana. G. Lucas, 208 Milam St., Shreveport, La.

WE BUY, sell lands, leases, royalties, oil stocks, anywhere. Lands, $2 per acre, up. Leases 25c per acre, up. Free list. Write your needs. American Investment Co., Esperson Building, Houston, Tex.

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Classified Display is set with a border and may be used in one or two column sizes.

1 inch	1 time	$5.00
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1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.25	$3.30
4 Lines	1.40	2.40	3.40	4.40
5 Lines	1.75	3.00	4.25	5.50
6 Lines	2.10	3.60	5.10	6.60
7 Lines	$2.45	$4.20	$5.95	$7.70
8 Lines	2.80	4.80	6.80	8.80
9 Lines	3.15	5.40	7.65	9.90
10 Lines	3.50	6.00	8.50	11.00

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

March 19th

On this date we will publish our Annual Refinery Number. If you have used refinery equipment for sale, don't miss this outstanding issue. The dead-line is March 14th. Let us have your ad by that time.

Classified Department

The Oil and Gas Journal

Financing

JAMES E. MILLER, 604 W. Seventh St., Tulsa, Okla., will aid in financial marketing problems. Fee basis.

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis. John Morris, Box 5411, Philadelphia, Pa.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CLASSIFIED ADVERTISING

For Sale—Equipment

Used Refinery Equipment

Dismantling two large modern refineries located in Oklahoma and Texas. Everything from a Cracking Still to a Filling Station Pump. Thousands of items. Send for latest illustrated catalog. Get our quotations and see how much you save.

BROWN-STRAUSS CORPORATION

Main Office—1446 Guinotte Ave., Kansas City, Mo.

Branches

Sapulpa, Okla. Arkansas City, Kans. Pyote, Texas.

USED REFINERY EQUIPMENT

FOR SALE AT FORT WORTH REFINERY

• Cracking Stills • Crude Stills • Bubble Towers • Boilers • Compressors • Pumps • Tanks • Pipe • Valves • Fittings • Instruments • Cooling Towers • Etc.

INQUIRIES ARE INVITED

Communicate with our Mr. Harris Pruitt
SALVAGE DEPARTMENT

TEXAS PACIFIC COAL & OIL COMPANY

FORT WORTH, TEXAS

Used Electrical Equipment

Complete generating, transmission and distributing unit—for producing property—180 KVA generator, 200 HP twin cylinder Bessemer gas engine with overhead exhausts—transformers—switches, lines, pumping and drilling motors.

All but motors can be used for small town electrical plant.

O. O. OWENS

BOX 1416 TEL. 3-7126 TULSA, OKLA.

FOR SALE

7—25-30 ton Martin Special eight wheel, high speed, flexible wagons, 3½ inch square steel axels, 36 inch diameter wood wheels with ¾ inch by 8 inch steel tires, bronze bearing equipped and with tractor hitch.

I. T. I. O.,
Bartlesville, Okla.

FOR SALE

2—80 H.P. Bessemer direct driven tandem compressors. 12" low, 7" high cylinders. (Ideal for repressuring.)
2—80 H.P. Bessemer direct driven compressors, 14" cylinders.
6—7" x 27" gasoline storage tanks.
Other gasoline plant equipment.

P. O. BOX 322
TULSA, OKLAHOMA.

DIESEL Engine for Sale. 225 H.P., 360 R.P.M. Chicago Pneumatic Tool Engine Direct Connected to G.E. 2,300 Volt, 187 K.V.A. Generator. Purchased Summer 1933. Run less than thirty-five hundred hours. Engine junk. United Power Company, 1105 First National Building, Oklahoma City, Oklahoma.

SIX REBUILT Oxweld Cutting and welding Outfits—Torches, Gauges. Reasonable. Service Co., 3732 Cedar Avenue, Cleveland, Ohio.

FOR SALE—Air Compressor Laidlow-Dunn Gordon, 12x18—12x12 double cylinder steam driven. I. Jaffee & Sons, Dallas, Texas.

FOR SALE—Okell drlg. outfit comp. Good condition. Loc. Albuquerque, N.M. J. W. Dewey, 321 W. 8th, Los Angeles.

110 HP Hercules Drilling Engine, Natural Gas or Gasoline equipment complete with radiator and reverse drilling clutch. Price $800.00. C. L. Jordan, 505 W. 11th St., Bristow, Okla. Phone 502.

FOR SALE

2—Heavy Standard Rigs, 6' irons, 84' derricks, one all steel, other steel derrick, with or without tools.
1—140 H.P. Buffalo Gasoline Drilling Engine, mounted on trucks, complete with reverse and brake.
1—75 H.P., 220 volt Drilling Electric Motor, complete with control panel. Chicago delivery and inspection.

WILLIAM H. CATER
2643 W. Monroe St.,
Chicago, Illinois.

SIX—300 amp. Lincoln Engine driven welders. A-1 condition. Stationary type. Service Co., 3732 Cedar, Cleveland, Ohio.

FOR SALE OR TRADE

Three complete strings of cable tools at Hobbs, New Mexico. All nearly new and first class condition. Will sell or trade for royalties, leases or oil payments.

Write or phone Weston Payne, LD 365, c/o Anderson-Prichard Oil Corporation, Oklahoma City, Oklahoma.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

For Sale—Equipment

Everything in Refinery Equipment

The Altitude Refinery at Chanute, Kansas.
The Marathon Refinery at Boynton, Oklahoma
The Sinclair Refinery at El Paso, Texas.
The Pure Oil Refinery at Ardmore, Oklahoma.

Everything for sale in these plants. ALL of our EQUIPMENT is RECONDITIONED. Inventories on request. Pressure tanks and Hot Oil Pumps our specialty.

Wire — Phone — Write

W. C. BERRY —or— H. J. GALAMBA

SONKEN-GALAMBA CORPORATION

64 North Second Street Kansas City, Kansas.

Steel Storage Tanks

We will erect latest type 55,000 bbl. all steel storage tanks at a great saving. Over 500 tanks on hands from 500 bbls. to 80,000 bbls.
Four 55,000 bbl. all steel tanks near Seminole, Oklahoma, for rent, we own ground and pipe connections.

We can furnish any quantity of steel tank sheets from 3/16 inch to ½-inch inclusive in carload lots at bargain prices.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION

64 North Second Street Kansas City, Kansas.

PRESSURE VESSELS

2—Vogt reaction chambers—10′ x 18′ x 2⅜″ steel.
3—Dephlegmators 42″ x 21′ x ¾″ steel.

SONKEN-GALAMBA CORPORATION

64 North Second Street, Kansas City, Kansas.

FOR SALE

27—1½ inch Granberg meters.
5—surge chambers.
14—strainers.
17—air separators.

P. O. Box 1604, Lincoln, Nebraska.

LODGE & SHIPLEY hollow spindle lathes. Cincinnati milling machines, shapers, radial drills. Rego welding and cutting equipment. AC and DC electric welders and supplies. The Southern Supply Company. Dallas. Texas.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa.

GAS METERS

Used Westcott, Emco and Foxboro orifice Meters. Large capacity Iron Case meters. George R. Milner, Okmulgee, Okla.

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Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception."
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Names and addresses in any State.
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Help Wanted

ENGINEER WANTED

Large oil company requires petroleum engineer with two to five years' practical production experience. Must be graduate recognized university. Starting salary $175 to $250 per month depending on training, experience and recommendations. Age 23 to 28. Mail applications to Box H-150, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

CHEMICAL Engineer, petroleum chemist, with outstanding mechanical engineering experience in designing and developing equipment, wants position with engineering, development or operating department of major oil refining unit or oil producing interest. Address Box H-142, The Oil and Gas Journal, Tulsa, Oklahoma.

A WELL qualified prod. man desires position as prod. supt. with plenty of exp. and good ref. P. O. Box 643, Tecumseh, Oklahoma.

General refinery maintenance, 10 years electrical and mechanical experience, desires change. Thirty-five years old; married; now employed. Address Box H-161, The Oil and Gas Journal, Tulsa, Okla.

Incorporations

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Del.

Petroleum Eng. Laboratories

GEOLOGIC STANDARDS COMPANY
1600 East 5th Place, Tulsa, Oklahoma.
Porosity-Permeability-Saturation Tests.

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Discovery Drilled Too Deep

FORT WORTH, Tex., Mar. 3.—The Cascade and Honolulu Oil Companies No. 1 Bennett, wildcat discovery well in southeast Yoakum County, showed water in drilling from 5,106 to 5,112 feet. It probably will be plugged back and the lime pay horizon acidized at 5,000 feet. The well is located in section 678, Block D, Gibson Survey.

Stream Pollution Hearing

WASHINGTON, D. C., Mar. 2.—Arguing that disposal of both industrial and municipal waste in streams is a health hazard, as well as harmful to wild life, proponents of the Lonergan water pollution bills urged a subcommittee to report S.3958 and S.3959. A subcommittee of the Senate Committee of Commerce, consisting of Senator Caraway (D) of Arkansas, chairman; Senator Guffey (D) of Pennsylvania, and Senator Gibson (R) of Vermont, held a hearing on the bills on February 26 and adjourned for two weeks, in order that those opposing the measure might have time to prepare statements.

Refund on Crude for Asphalt

WASHINGTON, D. C., Mar. 2.—A bill for the refund of import duties and taxes paid on imported crude used for manufacture of asphalt or road oil has been introduced in the house by Representative Caldwell (Democrat), Florida, and referred to the Ways and Means Committee.

Average Retail Price

The average retail price of middle octane or regular grade gasoline on March 1, based on the pump prices throughout the United States, was 14.22 cents a gallon, exclusive of all federal and state taxes. The March 1 composite price was the highest recorded on this date since 1931 when the average price was 14.86 cents and is the highest average price recorded on the first of any month in the past two years, excepting January, 1934. Entering the year at a price of 13.69 cents per gallon on January 1, the average price rose to 14.20 cents on February 1 and during February advanced to the present high. The March 1, 1936, price exceeds that of March, 1935, by 1 cent per gallon.